



Picturesque Panama
The Panama Rail Road
The Panama Canal.

Jean Heald

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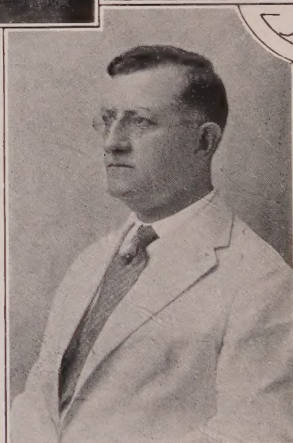
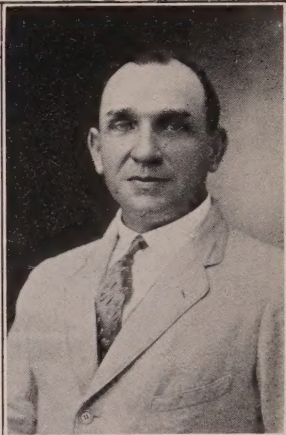
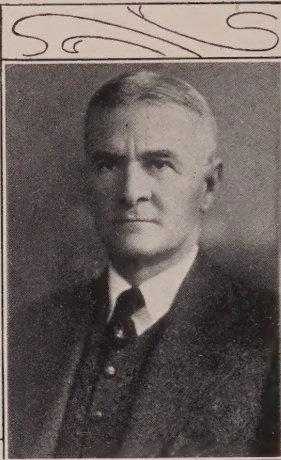
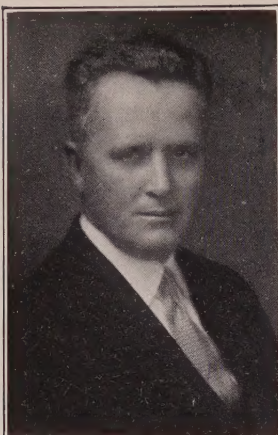
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PICTURESQUE
PANAMA



R. K. MORRIS,
Chief Quartermaster.
July, 1905-1928.

M. L. WALKER,
Governor Panama Canal
and President Panama Railroad Co.
July, 1921-1928.

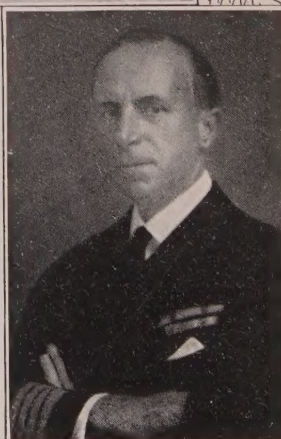
C. A. McILVAINE,
Executive Secretary.
December, 1904-1928.

COLONEL WESTON CHAMBERLAIN,
Chief Health Officer Panama Canal.
Service: June, 1924-1928.

COLONEL HARRY BURGESS,
Engineer of Maintenance.
Service: October, 1924-1928.

S. W. HEALD,
Supt. Panama Railroad
and Steamship Line.
April, 1908-1928.

CAPTAIN JOHN DOWNS,
Marine Superintendent.
March, 1926-1928.



PICTURESQUE PANAMA

THE PANAMA RAILROAD
THE PANAMA CANAL

By
Jean Sadler Heald

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To
My Husband
Samuel Woodward Heald

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T O T H E R E A D E R

THIS little book is designed to be for you a modest, but, as far as possible, an accurate and faithful guide to Panama, and, in word and picture, a brief story of the Panama Railroad and the great Panama Canal. Compared to the rich series of publications on Panama, learned and often monumental, my work will be plain and unpretentious in its brevity and simplicity, merely covering the points of interest, and answering the questions the writer has, by reason of long residence, answered for the short-time visitors to Panama during the past ten years.

Especial thanks are tendered the Isthmian Canal Commission for permission to reproduce their photographs and for the privilege of getting information from their files.

JEAN SADLER HEALD.

INFORMATION FOR TOURISTS

TRAIN SERVICE AND ROADS:

There are no highways across the Isthmus. Colon and Panama City are connected by rail.

There are three trains each way daily, except on Sundays, when there are two. The following time table is in effect:

BALBOA TO COLON AND WAY STATIONS:

| | | | |
|---------------|------------|------------------|-----------|
| Leave Balboa: | 7:05 A.M. | Arrive Colon | 8:45 A.M. |
| | 12:20 P.M. | (Except Sundays) | 2:10 P.M. |
| | 6:15 P.M. | | 7:55 P.M. |

COLON TO BALBOA AND WAY STATIONS:

| | | | |
|--------------|------------|------------------|------------|
| Leave Colon: | 9:10 A.M. | Arrive Balboa | 10:50 A.M. |
| | 12:15 P.M. | (Except Sundays) | 2:05 P.M. |
| | 4:00 P.M. | | 5:40 P.M. |

OCEAN TRANSPORTATION:

Panama can only be reached by sea. Colon is 5½ days from New York and 10 days from San Francisco by direct steamers.

Eastern time is used.

There are from three to five sailings a week from New York to Panama and about one a week from San Francisco.

There are bi-monthly sailings for the Far East and weekly sailings for Europe. The trip to Europe is much cheaper from Panama than from New York.

POSTAL, CABLES AND CURRENCY:

Mails are received from and dispatched to the United States on an average of three times a week, and are in transit from six to ten days.

The United States Government maintains a radio service which, together with the All America Cable Company, renders Panaman communication with the world.

United States currency is used in the Canal Zone as well as in the Republic of Panama.

CLOTHES:

The tourist coming to Panama should provide himself with clothes similar to those worn in the Summer in the States. The visitor who plans to spend some time in Panama will find local tailors who make very satisfactory linen and light-weight suits for a nominal sum.

For Ladies—Evening gowns and sports' frocks of light weight material are advisable. Washable sports' clothes are always satisfactory. A light scarf or wrap in the evening is a necessity. Imported gowns appropriate for tropical wear are carried by several of the better class shops in the Republic.

INFORMATION FOR TOURISTS

BANKS:

The National City of New York, Head Office, 55 Wall Street, N. Y. City. Resources \$1,400,000,000. Special service rendered to the traveling public. Letters of Credit and Travelers' Checks issued; available in all parts of the world.

Make this your bank while sojourning on the Isthmus.

Located in Panama City, Cathedral Plaza. Also in Colon—Front St.

HOTELS IN PANAMA CITY:

Hotel Central, Cathedral Plaza: Modern, first-class, American and European Plan; recently remodeled under American management.

SHOPS:

I. L. Maduro, Jr., Cathedral Square, next to Hotel Central: Panama hats, kodaks, films, Spanish mantillas, silk shawls, kimonos, silks, curios, souvenirs, etc.

New China, Panama City, 27 Central Avenue and 123 Central Ave. Colon—11th and Bolivar Streets. Importers of Chinese and Japanese silks and curios.

Chong Kee, 39 Central Avenue, Panama City, established 1888, silks, curios, Oriental wares, etc.

Nina Mastellari, Central Avenue at 9th Street, Panama City, hats, dresses, lingerie, French bags, shawls, perfumes, Paris models.

Foster's, The American Store, Central Avenue, hats and dresses.

Antonio, 30 Central Avenue, Panama, also Colon, hand embroidered linens, French dresses, Parisian novelties.

The French Bazaar, Panama City and Colon, hats, frocks, shawls, jewelry, perfumes.

Lewis Photo Service, No. 1 Fourth of July Avenue, Eastman agent.

D. Chellaram, Colon and Panama, Spanish shawls, ivory, linen, silks, Eastern exports, souvenirs.

J. V. Beverhoudt, Front Street, Colon, kodaks, victrolas, souvenirs, candy, fountain pens, periodicals.

Pohoomull Bros., Colon and Panama City, dealers in Oriental rugs, brass, embroideries, and Panama hats.

Charles L. Persons, auto service and tourist companies; special representative for all leading tourist companies, hotel reservations made by cable or radio. Cable address: Persons, Panama. Arrangements made for motor trips, fishing parties, etc.

For information concerning investments, real estate, and industries of Panama, address: *Chamber of Commerce*, Panama City.

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FACTS CONCERNING THE CANAL.

PUBLISHED BY
I. L. MADURO, Jr., 34-36 Cathedral Square,
Panama, Rep. of Panama.

Picturesque Panama

PICTURESQUE PANAMA

SOUTHWARD-BOUND for Panama are words to conjure with, and to the prospective visitor, bring visions of sunshine, flowers, the song of birds, the radiance of moonlit tropic nights and the lure of the Southern Cross, which hangs low, flooding the sky with its brilliance in "latitude nine."

During the winter months, while North America struggles with snow, sleet and cold winds, Panama is at her loveliest, for it is during January, February and March that the dry season, which begins in December and lasts until May, is at its height—the sunshine warm



MODERN COLON —A CITY FAIR TO SEE.

and brilliant, the gorgeous flowers blooming in riotous profusion as variegated in color as the butterflies that brighten the landscape. Nor are the intervening months by any means devoid of attractions, for while North America during the summer months is in the throes of terrific heat waves, the days are gray, cool and restful in Panama, with a softened background of mist-covered green hills. The feeling of tension and hurry unconsciously falls from one in the mellow, languorous air of this enchanting land, and a glamour is cast over all, causing one to chant with the poet:

"O Land of Love and Pleasure,
Of soft and languorous days,
Of brilliant flowers and sunny hours,
How shall I sing thy praise?"

There is a breath of ancient poetry about Panama—this slender strip of land which nature forged for her uses during some crisis in her

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conflict with time and change. — — Thus it was found by Columbus, washed on the eastern shores by the turbulent tides of the Atlantic, and by Balboa, looking toward the sunset with the placid Pacific flowing past. There is perhaps no region in the world, of similar area, which has been allotted so important a role in the world's commerce, nor is there a region of similar area, that possesses so many places replete with history, romance and tropical beauty—as the Isthmus of Panama. The visitor will find the days spent here full of charm, interest and incident.

As Panama is reached through the portals of Cristobal from Europe and the eastern parts of the United States, it is fitting therefore that Cristobal and Colon should be the beginning of this delightful journey, and the visitor will doubtless seek to acquaint himself with the more notable places and features of the eastern port. Before setting out upon a journey of exploration it is far more interesting if one gets the proper background by briefly recalling some historical facts connected with Colon and Cristobal.

Columbus was the first white man to visit Panama. On his fourth voyage of discovery he visited Navy Bay, which is now called Limon Bay, and which encircles the Island of Manzanilla on which the city of Colon is located. As the island presented a very depressing aspect, Columbus did not consider effecting a settlement at this point. However, he named the bay—Navy Bay—and sailed away to a point fifty miles west of Colon and made a settlement which he named Belen. Here he left his brother Diego with one hundred men. The settlers remained there for some time and the sad story of their privations, hardships, and the final destruction of the entire group by the Indians, is one of the most pathetic in the history of early colonization.

The Indians in the region of Belen at the time of Columbus' discovery were very friendly; they wore plates of gold suspended around their necks and weighted their fishing nets with gold nuggets. When Columbus returned to Spain, his report was that Panama was the richest of all his discoveries. Years later Spain honored Luis, the grandson of Columbus, by conferring upon him the title of Duke of Veraguas, and the tract of land known as the Province of Veraguas today is practically the same as contained in the grant known as the Dukedom of Veraguas in the days of Spanish rule.

The founders of the present city of Colon, which for a number of years was called Aspinwall, were the American builders of the Panama Railroad, constructed in the year 1850-1855 by Chauncey, Stephens and Aspinwall. Remembering that to Columbus belonged the honor of early discovery, the Colombians resented bitterly the

PICTURESQUE PANAMA

name of Aspinwall which was fittingly given to the new town at the inception of the railroad in honor of its chief promoter. Colombia never recognized the name of Aspinwall but called the town Colon from the beginning. After many years of amusing controversy, causing much confusion in the delivery of mail and official matters, the United States was finally forced to agree upon the present name of Colon. and later with the establishment of the Atlantic terminal in the Canal Zone, the name of Cristobal was given the American town. Thus it was that Cristobal Colon, the great discoverer, was honored while founders of the city and the builders of the railroad were forgotten—except for the nondescript monument which stands in the garden in front of the Washington Hotel in Colon. The monument is a red granite shaft on a triangular base on which are mounted the busts of the builders, John L. Stephens, Henry Chauncey and William H. Aspinwall. Perhaps some day the patriotic citizens of Colon will erect a great monument, a lighthouse in the harbor, as a memorial to these men, the founders of Colon, who conquered the tropics before science had discovered wherein lay man's deadliest foes—the yellow fever and malarial mosquito—and who by their pioneer work made the subsequent development on the Isthmus comparatively easy.

The Colon of today bears little resemblance to the Island of Manzanilla as that island appeared when chosen as the Atlantic ter-



COLON BEFORE THE ARRIVAL OF THE CANAL COMMISSION IN 1905.

P I C T U R E S Q U E P A N A M A

minal of the Panama Railroad. At that time it was cut off from the mainland by a narrow channel and in area was little more than a square mile; in elevation only a few inches above the sea. Covering the entire island was a dense growth of the water-loving mangrove and poisonous manzanillo trees, growing out of a swamp of unfathomable ooze which was the habitat of alligators and other huge reptiles. The air was filled with poisonous insects and heavy with the unhealthy vapors rising from the marshes.

Columbus, stout-hearted and unafraid, quailed at the sight of this island, which was to remain unchanged until the building of the railroad. Certainly there was little to recommend it as a site for a town, the establishment of which was due solely to the necessity of a terminus of the railroad.

For many years after the completion of the railroad and until the arrival of the Isthmian Canal Commission, in 1905, Colon remained little more than a swampy, disease-ridden port and was frequently referred to as the "pest hole of the Universe," and the "wickedest city of the Americas," the moral tone of the place being in keeping with the sanitation.

But conditions changed rapidly with the arrival of the Canal Commission. The city of Colon was raised, drained, sanitated; large areas raised, streets paved, the morass in the heart of the city filled in and converted into a lovely park, and behold Colon as the visitor sees her today—a city fair to look upon. It is divided into two parts, the native city of Colon and the American quarter, Cristobal. The Canal Zone embraces a strip of land five miles wide on either side of the canal over which flies the American flag; legally a part of the United States. Beginning with Cristobal, the American towns scattered along the railroad crossing the Isthmus are alike and complete, inasmuch as each town has its own station, restaurant, post office, clubhouse, churches, lodge hall and dispensary. There are playgrounds, tennis courts, baseball parks. The houses follow one general type and are painted gray with white trimming, with black, or sometimes red roofs. They are attractive and picturesque, these simple frame houses with wide porches, substantially screened and covered with vines and masses of brilliant-hued bougainvillea.

The towns are bright, clean and beautiful and have something of order and symmetry, the pleasing arrangement of which conforms with the most approved ideal of the City Beautiful.

It is not an exaggeration to say that the Canal Zone is the best governed section of the United States, if not the world. Certainly it is the cleanest, and it is no small wonder that the employees, living under such ideal conditions, should never want to return to the United

PICTURESQUE PANAMA



A TYPICAL CANAL ZONE TOWN.

States, where life is more complex with the intricate economic problems of today; the fierce industrial and commercial struggle; the business world, agitated and feverish, while life in the Canal Zone, by comparison, is calm and peaceful.

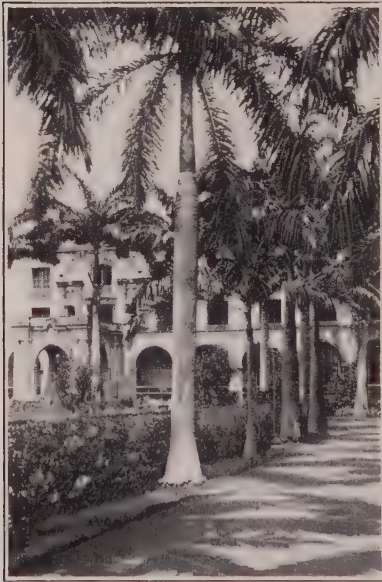
It is always June in Panama, where the thermometer never varies more than ten degrees the year 'round; where the days are genial and balmy and the nights delightfully cool. There is no problem of providing heavy clothing for the changing season or fuel for the winter months.

The interest begins for the visitor who plans to spend a short time in Colon, when he decides to stop at the spacious and beautiful Hotel Washington, delightfully situated on Colon Beach. Its fine double gateway, beautiful park and cloister walls form a delightful setting for this attractive hostelry, built of hollow tiles and reinforced concrete in modification of Spanish mission style, and modern in every sense, with baths, beautifully furnished rooms, lounging rooms, ballroom and broad verandas on the side looking toward the sea. The spacious grounds are adorned by a statue of Christopher Columbus and an Indian maiden. This monument was cast in Turin and was presented by the Empress Eugenie to the Republic of Colombia, and represents Columbus in an attitude of protection, explaining to the wondering maiden, who is supposed to personify America, the dreams of the New World. Outlining the streets are the tall, feathery palm trees, the broad-leaved bread-fruit tree, the lovely frangipani; and one gets a glimmering in between of the characteristic blue of the beautiful Caribbean over which hover the vapors of many legends. These waters, part of the Spanish Main, have a strong appeal and only await

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the touch of romance to awaken memories of the great admirals: Raleigh, Drake, Rodney, Nelson; and of the bold buccaneers, Morgan, Black Beard, Sharp and others who sailed their ships over these very waters, lured to strange seas and remote lands by the love of adventure and the magic of gold.

Just across the street from Cristobal lies Colon, a unique city with a touch of cosmopolitanism about it, because of the strange comingling of representatives of countless races which comprise its population, that will never be reproduced elsewhere. Here are seen the



HOTEL WASHINGTON.



A VIEW OF THE CARIBBEAN OVER WHICH
HOVER THE VAPORS OF MANY LEGENDS.

East Indian, Spaniard, German, Italian, Indian, English, West Indian and other races which, taken altogether, contribute to the kaleidoscopic effects not seen elsewhere in the world.

One is impressed by the bustle and activity which characterizes the shopping district, with its interesting oriental bazaars and modern and American shops. Many tourists find their chief delight in shopping on the famous Front Street, where rare perfumes, exquisite porcelain, linens, and oriental rugs are temptingly displayed and can be purchased at reasonable prices, since the duties on many of the imports into Panama are nominal.

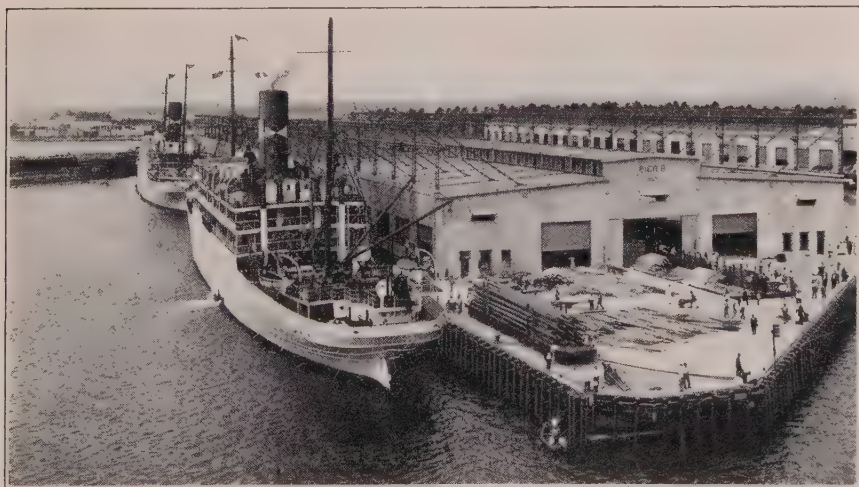
This impression of activity is further emphasized by the extent

PICTURESQUE PANAMA



WASHINGTON HOTEL AND STATUE OF CHRISTOPHER COLUMBUS.

and facilities of the splendid harbor, comprising docks that are owned and operated by the Panama Railroad, capable of accommodating the numerous steamships from all parts of the world, flying all flags, as they pull alongside the spacious quays, loading and unloading their huge cargoes with a quietness and dispatch that is a marvel of efficiency and translates into reality the ideal of commercial activity.



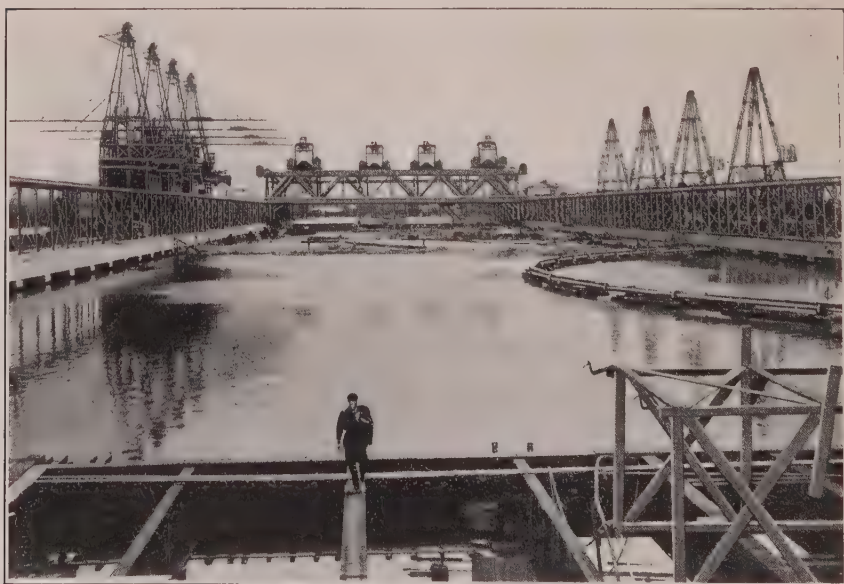
BUSY DOCKS IN COLON HARBOR.

PICTURESQUE PANAMA



INTERIOR OF SPACIOUS PANAMA RAILROAD DOCKS IN CRISTOBAL.

The Coaling Plant, also under the management of the Panama Railroad, is the last word in mechanical ingenuity. The largest ships can be successfully coaled in the space of a short time. The issuing



CRISTOBAL COALING STATION. VIEW OF PLANT, LOOKING SOUTH FROM END WHARF.

P I C T U R E S Q U E P A N A M A

capacity, which is two thousand tons per hour, attests this fact. It is well worth the visitor's time to make a visit to this plant which makes an interesting picture with its hyper-modern iron silhouettes, displaying electric cars and machinery, against the tropical azure of the sky.

The volume of the shipping from this busy harbor, which from year to year assumes greater proportions, is proof of the commercial importance of this growing city. The spacious offices of the numerous steamship companies, the splendid brick buildings, large commercial buildings, the famous Strangers' Club, the quaint old building known



GILBERT HOUSE, ONCE THE HOME OF THE POET GILBERT. NOW USED AS A CLUB HOUSE BY THE WOMAN'S CLUB OF CRISTOBAL.

as the Gilbert House, now used as a meeting place of the Cristobal Woman's Club (a federated club, noted for its philanthropy and which is unique in the fact that it was organized in the early days of canal construction by the United States Government) and once the home of the poet Gilbert, where he wrote his poems of Isthmian life, the luxurious Government Hotel Washington, all lie here in a tropical setting amid the green freshness of the rain-washed trees, breathing prosperity and telling a story of profitable commerce which is the result of that great achievement, the wonder of work, the Panama Canal.

The visitor who is a patriotic American will be interested in taking the drive along the splendid highway, flanked with luxuriant vegetation and tall trees, that leads to France Field and Coco Solo, the aviation field and submarine base, both of which are constantly being improved and which are destined to become two of the greatest forti-

PICTURESQUE PANAMA

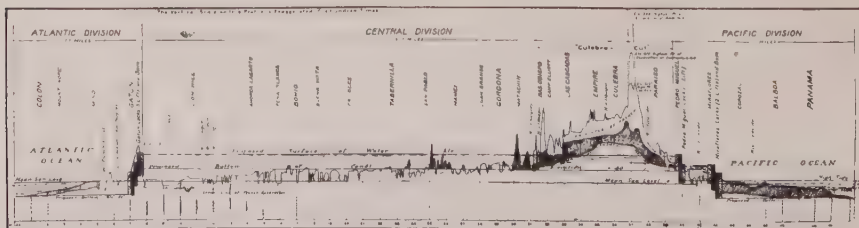


COCO SOLO. U. S. NAVAL AIR STATION.

fications in the world. Also located in Colon are the Military Posts Fort Sherman, the Headquarters of Second Coast Artillery; Fort De Lesseps, Headquarters of the Harbor Defense; Fort Randolph, Headquarters of Battery First Coast Artillery; and Battery C, Sixty-fifth Coast Artillery.

To have seen Colon and its environs is not to say that one has seen Panama—the part only serves as a foretaste of the whole, and the visitor taking the trip across the Isthmus, via the modern Panama Railroad, whose past history forms a link with the present, finds the fifty-mile ride an ever-varying source of picturesque beauty in its natural features, the interest being greatly enhanced by charming views of the Panama Canal, with its never-ending stream of ships silently passing through, and in the passing, mark in the truest sense, the place where “East meets West.”

The trip to the Capital of the Republic now claims the attention of the visitor, who finds himself seated in a luxurious observation car,



CROSS-SECTION OF THE ISTHMUS OF PANAMA.

PICTURESQUE PANAMA

and his interest is aroused when he learns that, except for the metal framework, the car is made entirely of the beautiful native mahogany, which is plentiful in the jungles of Panama.

The first stop of the train is made at Mount Hope, which is the name of the station as well as the beautiful cemetery where repose

hundreds of brave adventurous dead who paid the price of their lives in building the railroad and digging the canal. This plot of ground lies on the slope of a hill in the shadow, amidst a great variety of tropical trees, which suggest a botanical garden rather than a cemetery. There are



MOUNT HOPE CEMETERY.

many flowering shrubs growing in the beautifully kept grounds and the air is heavy with the scent of exotic flowers—the hills, phantom blue in the distance, the huge trees outlined against the sky, looking

on unconcerned and apart from the "turmoil of the present and are fitting memorials of a precarious past."



GATUN.

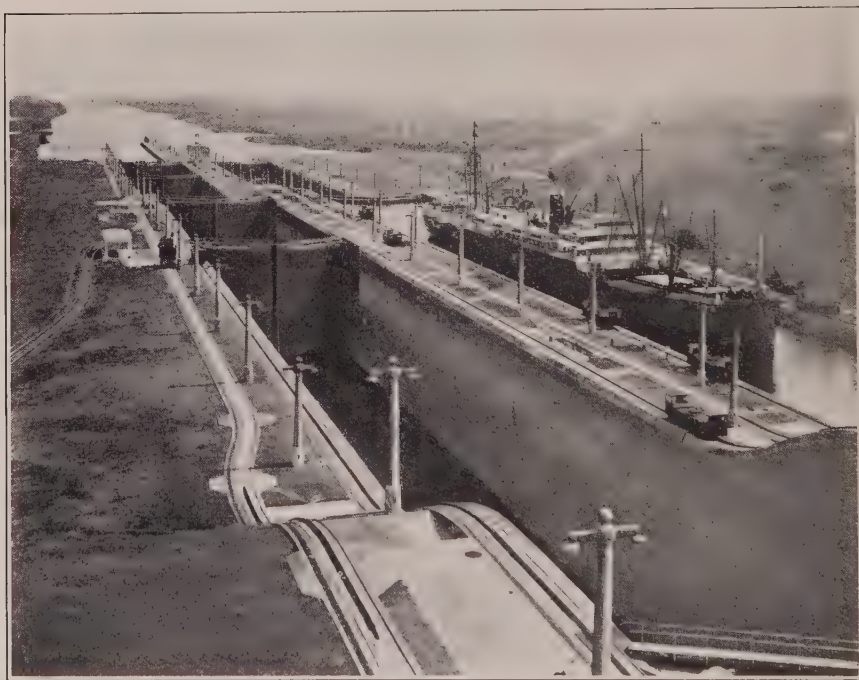
Continuing on, the next stop is at the spick and span Army Post, Fort Davis, the home of the 19th Infantry and Brigade and 4th Field Artillery, where the splendid

military establishments and well-turned-out soldiers stamp it as an important military post.

A little further on we come to Gatun, a small town charmingly set upon a hill overlooking Gatun Locks and the famous Gatun Dam. Special interest attaches to this dam of stupendous dimensions that

PICTURESQUE PANAMA

stretches across the valley at Gatun and is so much a part of the landscape that it does not appear to be artificial. Upon its grassy slopes there is in constant use a magnificent golf course known as the "million dollar golf course," unique in the fact that it is the only one of its kind in the world. Gatun is also famous for its wonderful tarpon fishing and we find here a Tarpon Club, which has welcomed and entertained fishermen from all points of the compass.



GATUN LOCKS.

The carefully designed spillway which cuts through the big dam is made entirely of concrete and provides an outlet for an overflow of water from Gatun Lake during the rainy season when the influx of water into the lake is much greater than the amount consumed. The surplus water is carried away by means of a concrete channel to the old French Canal, thence to the Chagres River, thence out to the sea.

When the spillway is opened and this mighty volume of water is released, the scene is one of impressive and indescribable grandeur.

The railroad follows the outline of Gatun Lake for miles and a wonderful panorama of scenery lies open to view. This lake is of

PICTURESQUE PANAMA



GATUN SPILLWAY WITH MIGHTY VOLUME OF WATER RELEASED.

particular interest when one learns that it furnishes twenty-three and one-half miles of the canal channel and about half the entire length of the canal and is eighty-five feet above the sea-level. No less interesting is the Chagres River, the turbulent waters of which replenish the lake, supply the power that drives the generators of the hydro-electric station, which develops forty-four thousand volts of electricity, supplying the canal with the electric light and power to operate the machinery. Thus it is, that this mighty river harnessed, is made useful to serve man's purposes.



H. M. S. RENOWN IN GATUN LAKE WITH DUKE AND DUCHESS OF YORK ON BOARD.
JANUARY 23, 1927,

PICTURESQUE PANAMA

Continuing on for miles we can still see glimpses of Gatun Lake. Interesting and mysteriously sombre are the dreary stretches of dead flora, the remains of a once living jungle, which always excites comment. After the completion of the canal, the water was turned into the artificial lake basin and the dense and humid forests of the jungle were completely inundated. The trees soon died, with the result that the denuded trunks of the ghost-like trees are seen protruding from the surface of the lake. In many instances the bare branches are covered with lovely clinging orchids of many varieties, and orchid collectors have found this watery area a fruitful field for the collection of these floral trophies for which Panama is justly famed.



DREARY STRETCHES OF DEAD FLORA IN GATUN LAKE.

The region traversed after leaving Gatun is a veritable jungle, the dense growth of palms and festoons of vines clinging to the lofty trees giving a charming aspect to the tropical landscape. Monte Lirio is soon reached, which is only a station with a small settlement of natives. At this point many bananas are loaded for shipment to the States, the numerous small plantations in and around Gatun Lake being the source of supply. Glimpses of the primitive thatched houses of the natives, nestling among the evergreen of orange, mango and banana trees, can be seen along the lake front, together with many other charming views.

The next stop is Frijoles, which is also a small settlement of West Indians, but interest centers here for this is the point of embarkation for the beautiful Island of Barro-Colorado, which occupies

PICTURESQUE PANAMA

a commanding position in the vast expanse of Gatun Lake and can be plainly seen from the train. Barro-Colorado in area is about six miles square and reaches an elevation of 537 feet above the surface of



A TROPICAL LANDSCAPE AFTER LEAVING GATUN.
PHOTO COURTESY OF LEWIS.



PRIMITIVE THATCHED HOUSE OF NATIVE NEAR MONTE LIRIO.
PHOTO COURTESY OF LEWIS.

Gatun Lake. Besides being set aside as a natural park by the United States, there is maintained on the island an Institute for Research Work in Tropical America. Perched high upon the hill overlooking the lake where stately ships pass in silent review, surrounded by the

PICTURESQUE PANAMA

dense jungle with its thousand tints of green, can be seen the laboratory.

It is a beautiful island full of mystery and charm and here, in the "tranquillity of the noisy solitude of incessant sound", famous scientists have established a center of work and come here to study the habits of birds, insects and the larger animals, the flora of the island and to wrest from nature her inscrutable secrets, to discover the hidden forces that animate the world of the primeval jungle. A



BARRO-COLORADO WITH LABORATORY.

veritable paradise for the scientist—"A paradise of wild things" is Barro-Colorado.

The train passes rapidly along until Darien is reached, where the government maintains a powerful wireless station. The train winds in and out through a lovely country and we soon cross the bridge that spans the beautiful Chagres River, at which point an excellent view can be obtained of the country drained by this mighty stream of which the poet Gilbert wrote—

"Beyond the Chagres River
Are paths that lead to death
To the fever's deadly breezes
To malaria's poisonous breath!

Beyond the tropic foliage,
Where the alligator waits
Are the mansions of the Devil
His original estates.

PICTURESQUE PANAMA

Beyond the Chagres River

Are the paths fore'er unknown,
With a spider 'neath each pebble
A scorpion 'neath each stone.

'Tis here the boa constrictor
His fatal banquet holds,
And to his slimy bosom
His hapless guest enfolds!

Beyond the Chagres River,

'Tis said—the story's old—
Are paths that lead to mountains
Of purest virgin gold;

But 'tis my firm conviction
Whatever tales they tell
That beyond the Chagres River
All paths lead straight to hell!"

Soon after crossing the Chagres River Bridge we see on the left, enclosed behind a high stockade, the Canal Zone prison, which represents as nearly as can be represented the ideal of a humanitarian prison, clean, wholesome, strictly disciplined and the opportunity given the prisoner of working in the open air.

Soon the apex of the Continental Divide, which extends over an area of nine miles, is reached at Summit—the highest elevation of the railroad at this point being two hundred and seventy feet. The low undulating hills, eternally green in Panama, are a part of the Cordillera of the Andes. The long line of front stretches to the south and to the north many thousands of miles, and is broken in its outline where the peaks are loftiest on the horizon with age-old glaciers, slowly melting under the fierce rays of an equatorial sun, and again in smoke-screened mountains, outlined against the sky, where the sullen fires of volcanoes burn low.

There is a perceptible increase in the elevation of the country as the train traverses the Continental Divide, and from the observa-



SCENE ON THE ISLAND OF BARRO-COLORADO.

PICTURESQUE PANAMA



CHAGRES RIVER BRIDGE.

tion car can be seen the most interesting portion of the canal—Culebra Cut or “Gold Hill,” rising abruptly from the canal bed with its luminant walls of red stone soaring upwards and telling the mute story



CULEBRA CUT, BEING TORN ASUNDER.

PICTURESQUE PANAMA

of man's triumph over nature. It was this scarred old hill, cleft, gored and finally torn asunder, that inspired the poet to write—

"A man went down to Panama,
Where many a man had died,
To slit the sliding mountains
And lift the eternal tides.
A man stood up in Panama
And the mountains stood aside."

Across the canal on the right, outlined on the green background of the forest-clad hills, can be seen Culebra, and further on the town of Empire, both of which were important towns in the busy days of construction, Culebra, having been the capital of the Zone.

At Summit, on the left, is the Summit Botanical Garden, which is in the process of development and which is proving of great scientific as well as aesthetic value. There is a paved



GENERAL GEORGE W. GOETHALS, "THE MAN WHO STOOD UP IN PANAMA AND THE MOUNTAINS STOOD ASIDE."



OPERATION PANAMA CANAL, S. S. "LACONIA" IN GAILLARD CUT.

PICTURESQUE PANAMA

road from Panama to Summit, and a trip to this garden is well worth while. Assembled here we find a large and varied assortment of rare and beautiful trees and plants from all over the tropical regions of the world. These plants are distributed to interested growers in the Zone and Republic, and the garden is serving the agricultural interests of the American tropics by introducing useful and beautiful trees and plants, and also in bringing up the standard of tropical fruits.

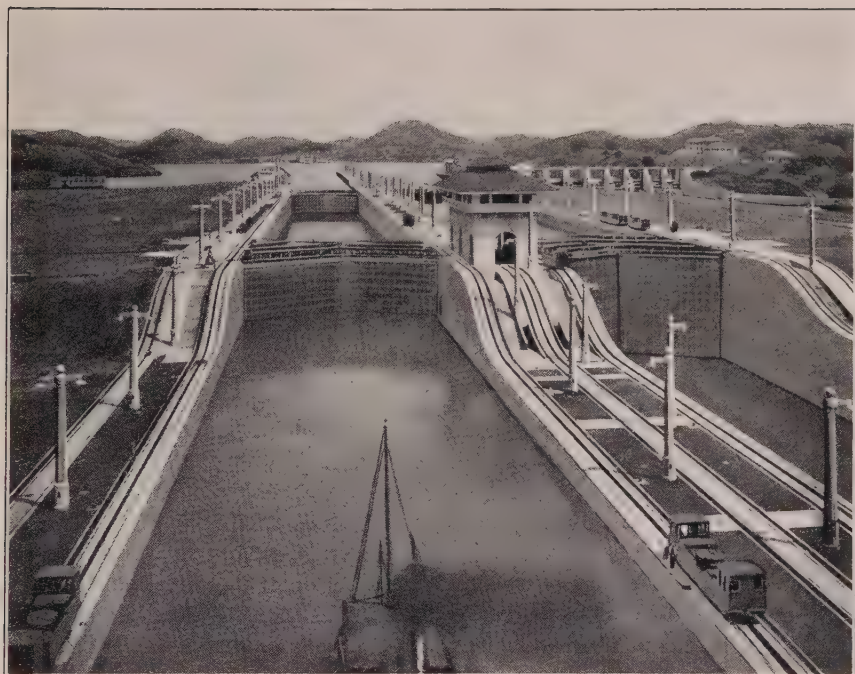
Of particular interest is the collection of medicinal plants, which includes a large number of Chaulmoogra Oil trees of Burma, the oil of which is successfully used in the cure of leprosy. Another curious plant in this group is the *Stevia Rebaudiana*, which comes from the desert regions of Paraguay. The locality in which it grows was guarded as a secret until recently. The plant contains a substance two hundred times sweeter than sugar and has the advantage of being nonfermentable and nonfattening. There is found here an interesting group of perfume plants, which if developed to any extent may prove a source of great wealth to Panama.

The next stop of the train is made at Pedro Miguel, a charming little village that owes its importance to the imposing Pedro Miguel Locks. As the road winds around Miraflores Lake on the right, set upon a hill, can be seen the Filtration Plant which renders the important and valuable service of purifying the water supply, which is obtained from the Chagres River, for both Panama and the Canal Zone. On the right a little further on, we come to the Miraflores Locks, Miraflores Lake being the connecting link between the two points. In comparison to Gatun Lake, Miraflores Lake is small, being



PEDRO MIGUEL.

PICTURESQUE PANAMA



MIRAFLORES LOCKS FROM TOP OF FLOATING CRANE "HERCULES".

only one and one-half miles long. Into its waters flow the Cocoli River, also the Rio Grande and Pedro Miguel Rivers.

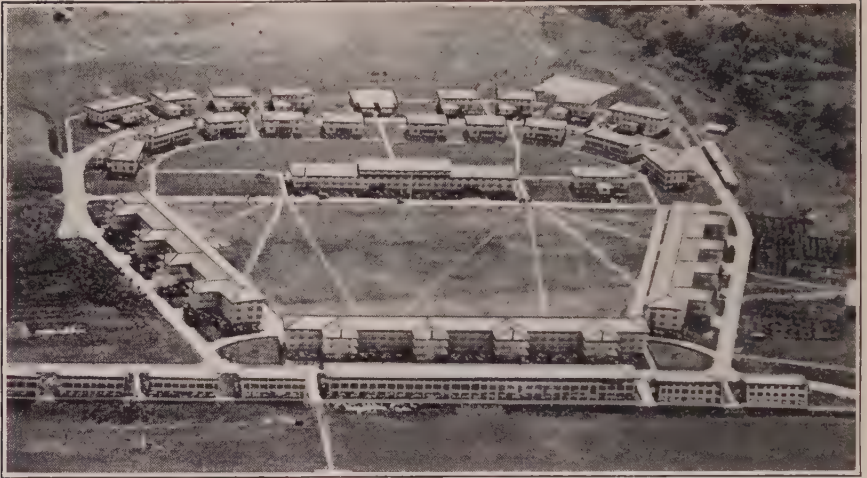
Before reaching the next station we dash through an amusing little tunnel and emerge a moment later, thus completing the requirements of a long railway journey.

We next pass Fort Clayton, a military post of importance, and Headquarters of the 33rd Infantry, which occupies an advantageous position overlooking the canal. The concrete quarters have a look of permanence and the post presents an attractive front. Continuing on we come to Corozal where three important branches of the Military Service are located—Quartermaster, Ordinance and Engineer Corps. Also at Corozal is located the Insane Asylum, which is under the Health Department of the Canal Zone and takes care of the insane in the Republic of Panama.

A beautiful view is obtained of Balboa as the train turns the curve coming into the station. The beautiful location of this town will impress the visitor, rounding the base of Ancon Hill and encircling the bay.

From the imposing Administration Building, set upon a terraced

PICTURESQUE PANAMA



HOME OF THE 33RD INFANTRY, FORT CLAYTON

hill overlooking the canal and the surrounding country, a panorama presents itself to the spectator in one magnificent, comprehensive view. The Prado, the town's principal boulevard, radiates from the Administration Building to the Government Clubhouse. The broad walks and drives, overhung with the shade of many trees, will claim the tribute of the visitor's admiration.

A visit to the Administration Building should not be omitted. Here is where all the affairs of the Government are administered and where the Executive Office of the Governor is located. The Governor



BALBOA AND HARBOR.

PICTURESQUE PANAMA



THE ADMINISTRATION BUILDING. THE PRADO AND BALBOA HIGH SCHOOL.

of the Canal Zone holds a most responsible position as direct representative of the President of the United States, and guides ably, and with authority and diplomacy, the course of affairs in the Canal Zone, in a democratic manner. Also in the Administration Building are located the offices of the officials of the canal.

Of special interest are the beautiful paintings seen on the second floor of the building. These pictures, which are arranged in a panoramic group, were painted by W. B. Van Ingen, assisted by C. T. Berry and Ira Remsen. A group of lithographs, made by the artist



ADMINISTRATION BUILDING WITH VISITING ELKS CLUB CONVENTION IN FOREGROUND.

PICTURESQUE PANAMA

Joseph Pennel, can be seen hanging in the Board Room of the Administration Building and are of great interest, as they also show the canal in the process of construction, as seen by a great artist in the

year 1913. One cannot look at these lithographs without realizing that they are a work of art, for in them one feels the charm of the vivid pictures of laborers lacquered in sweat, the thrill of achievement and the beauty in the great driving force of muscular arm strains, pulling at chains and gigantic cables and



AVENUE OF LOFTY BANYAN TREES LEADING TO THE PACIFIC HARBOR.
PHOTO COURTESY OF LEWIS.

the tense force of iron and steel. Here we catch the spontaneity of this force which was put into motion by human ingenuity, and here



PACIFIC TERMINAL, DRY DOCK AND SHOPS FROM SOSA HILL, LOOKING SOUTH.

we see in the making the herculean miracle of the age—The Panama Canal. Also of interest on the third floor of the building is a museum of canal antiques dating from the French activities in Panama.

PICTURESQUE PANAMA

The beautiful driveway leading past Balboa station, outlined by an avenue of lofty banyan trees, leads to the Pacific Harbor where there are splendid docks, and, strangely in contrast to the quite charm of Balboa, there is a bustle of activity pervading this busy seaport. Ships laden with strange cargoes, bound for strange lands are being loaded and reloaded for trans-shipment via the railroad or through the canal. Here, in great quantities, can be seen the bales of cinchona bark from Peru, indigo and cochineal from Guatemala, coffee from Costa Rica, cocoa and ivory nuts from Ecuador, copper bars from Peru and nitrate from Chile, presenting an exotic picture of commercial products.

Nor is the Pacific Harbor less interesting than the Atlantic. The docks swarm with life—nearly every tropical race has its representatives in the mingling of passengers leaving and arriving. Here we see the turbaned Hindoo, the slant-eyed Orientals wearing American clothing, Indians from the south, the exiled revolutionist, the prosperous tourist wearing the latest creations in tropical clothing from Paris and Palm Beach, the wealthy South American en route to and returning from the United States, all meeting on a common ground in a democratic setting under the banner of the United States flag, which in Panama is a symbol to the passing world of the efficiency of the United States.



UNDER THE BANNER OF THE U. S. FLAG IN PANAMA, PACIFIC HARBOR. PHOTO COURTESY OF LEWIS

Returning by the same road situated on a higher level, we come to Balboa Heights, which lies in the western shadow of Ancon Hill. Its winding vistas, well kept yards and flower-clad roofs are very picturesque. Here are grouped a number of the official houses, notable among them being the Governor's House, which has the appealing charm of dignity and simplicity, and approaches the ideal of a tropical home. It owes much of its charm to the artistic grouping of the tropical shrubbery that ornaments the spacious grounds. Special interest centers in the Governor's House, for it is here much official entertaining

PICTURESQUE PANAMA



GOVERNOR'S HOUSE.

is done. The duties of the Governor's wife of the Canal Zone are manifold and upon her slim shoulders rests the organization and responsibility of a household where many delightful social events take place throughout the year. Distinguished people from all over the world are constantly coming to the Canal Zone and the gracious hospitality extended to them by Governor Walker and his charming wife is traditional.

Continuing on beyond Balboa, we come to Quarry Heights, the name being chosen because of its origin. Here are located the Headquarters of the Panama Canal Department and the palatial quarters of the Commanding General, set in the



MRS. M. L. WALKER.
WIFE OF THE GOVERNOR OF THE CANAL ZONE.

PICTURESQUE PANAMA

extensive grounds which are surrounded by beautiful trees and terraced to the brow of the hill. At present the Commanding General is General Martin who will shortly be succeeded by General Graves.

A site was needed for a military reservation and the plan was adopted to utilize that portion of Ancon Hill which had been quarried during the construction of the canal. The plan has been carried out with such wonderful results that Quarry Heights, with the superior beauty of its trees, flowers and charming quarters, has become one of the many brilliant achievements



GENERAL CHARLES H. MARTIN, COMMANDING
PANAMA CANAL DEPT.



GENERAL WM. S. GRAVES, WHO WILL SHORTLY ASSUME
COMMAND OF PANAMA CANAL DEPT.

on the Zone and compels the admiration of all who see this beautiful post. The gaping wound from whence the canal locks drew a part of their firm foundations has not yet healed, nor has the deep gash made for a roadway that encircles this brooking old hill that leads to its summit where it is capped with fortification guns.

One of the notable points of interest in Balboa that should not be overlooked by the flower lover is the Powell Orchid Garden, which is a branch of the Missouri Botanical Garden of St. Louis. This beauti-

PICTURESQUE PANAMA



QUARRY HEIGHTS.

ful garden is a bower of beauty, and here can be seen growing hundreds of varieties of orchids, all that are native to Panama and many other lands. Of particular interest are some of the native orchids, the Holy Ghost or Esperitu de Santo deserving special mention; the history of which is enshrined in much legendary lore dating from the arrival of the Spanish friars in the Fifteenth Century, who gave this strange flower the name *Holy Ghost* and taught the natives to regard it as sacred and symbolic of the white dove of the New Testament. The flower is of an alabaster whiteness, in shape something like a mag-



HOME OF THE COMMANDING GENERAL, PANAMA CANAL DEPARTMENT.

PICTURESQUE PANAMA



ANCON HILL IN THE DISTANCE, BALBOA INNER HARBOR.

nolia, only smaller, and in the center, in exquisite purity with lowered pinions, rests the snow-white image of a dove so perfect in detail that it is little short of startling. So far Panama is the only place where this unusual orchid is found.

A drive of a few minutes, returning through Balboa Heights, and Ancon is reached. The road circles its way around the base of Ancon Hill and through the extensive and beautiful hospital grounds where Ancon Hospital is situated. The French, with their characteristic love of beauty, chose this incomparable situation for their hos-



QUARRY HEIGHTS IN THE BEGINNING WITH SCARRED OLD HILL IN THE BACKGROUND.

PICTURESQUE PANAMA



POWELL ORCHID GARDEN.

pital. The side of Ancon Hill was graded for roads, and the natural advantage of a comparatively high elevation made it a picturesque site of great natural beauty. The old French Hospital numbered thirty buildings and extended over a large area of ground. The hospital grounds have been beautified by every variety of plant and shrub from far and near tropic lands. This interesting collection was begun by the Mother Superior, Marie Rouleau. Many additions have been made, until now the grounds are a veritable botanical garden. Here can be seen the stately royal palms that flank the drive that extends the



VIEW OF THE MISSOURI BOTANICAL GARDEN, TROPICAL STATION, CANAL ZONE, PANAMA.

PICTURESQUE PANAMA



VIEW OF THE MISSOURI BOTANICAL GARDEN, TROPICAL STATION, CANAL ZONE, PANAMA.

length of the hospital, palms of many varieties, India rubber, bamboo, eucalyptus, cork, many fruit bearing trees, guavas, sapodillos, mangoes and numerous beautiful perfume and spice trees, also the giant ficus and others too numerous to mention.

For a number of years after the arrival of the American Commission the old French Hospital buildings were used, but with the completion of the canal they were replaced with the modern structures we see today. The distinctive entrances, red with the gorgeous bougainvillea, the air heavy with the scent of the fragrant ilang-ilang and beautiful frangipani, Ancon Hill in the background, the long line of beautiful royal palms extending the length of the grounds, in the distance the hazy blue tone of the Pacific, makes a picture of rare tropic beauty and one that is unforgettable. This ideal setting, combined with the luxuries and comforts of favored surroundings and the skill of the best in medical science, renders Ancon Hospital a Mecca for the ill who flock here from far and near.

Continuing on from the hospital and rounding the base of An-



DOVE ORCHID (*Peristeria elata*).

PICTURESQUE PANAMA



ANCON HOSPITAL.

con Hill we come to the imposing building occupied by the Court of the Canal Zone, which is ably presided over by Judge Guy H. Martin.



ANCON HILL WITH ANCON HOSPITAL IN FOREGROUND.

PICTURESQUE PANAMA



COURT HOUSE OF THE CANAL ZONE. JUDGE GUY H. MARTIN.

Federal Judge of the Zone. An interesting bit of history connected with this spacious building is the fact that it was originally built for

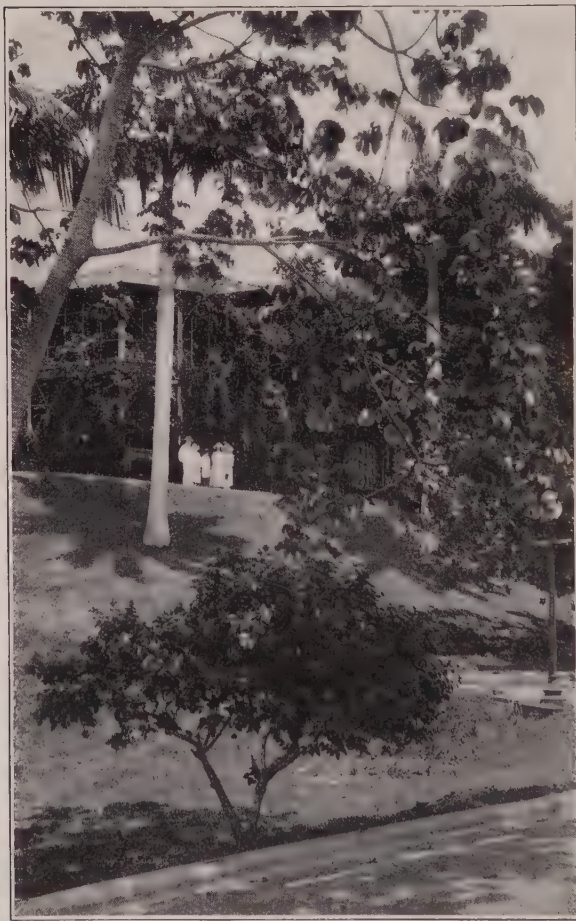


HOMES IN ANCON.

PICTURESQUE PANAMA

the Governor's mansion, who at that time was Governor Magoon. The building was begun under the administration of John F. Wallace and later, when Stevens became Chief Engineer, it was his recommendation to abandon the plan of using such a pretentious building for the Governor's mansion and instead it was used during Construction Days for offices of the Sanitary Department.

After leaving the Hospital grounds in Ancon, the road winds in and around many of the most attractive of the Canal Official Houses



HOME OF SUPERINTENDENT PANAMA RAILROAD.

as well as numerous smaller homes all following the general plan as elsewhere. The landscape is adorned with hibiscus and variegated croton which grows in great profusion in the orderly hedges that outline the yards and walks of the homes.

After Balboa station, the train's next stop is Panama City, the Capital of the Republic—the line of division from the Canal Zone being a well paved street. Thus at the end of the railway journey begins the most interesting part of the trip—an excursion into the City of Panama.

The present City of Panama is the result of long

historical processes and cannot be well understood without a knowledge of its past history. Therefore, before exploring the new, the visitor is advised to first visit Old Panama, which lies about five miles to the

PICTURESQUE PANAMA

north of the present city and is reached by a splendid highway that traverses a beautiful country characterized by low undulating hills and stretches of treeless pastures, in sudden contrast to the forest clad hills encountered in crossing the continent.

The highway is flanked in many places by a wire fence, the posts of which are of particular interest and exemplify the passionate intensity of vegetation in the tropics—vegetation that refuses to be arrested—for the posts have been cut and hewn to a uniform size and have taken root and burst into leaf and blossom and are growing trees, presenting a wall of living green in many places.



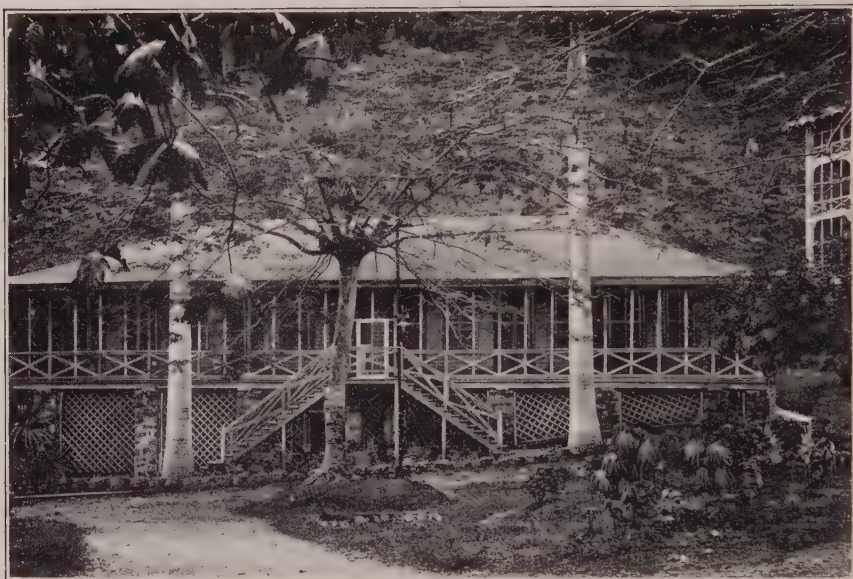
FENCE POSTS THAT ARE GROWING TREES.

PHOTO COURTESY OF LEWIS.

The ruins of the old city are soon reached, and the scattered walls, broken arches and lonely columns lift themselves from the earth, the sentinels of a buried past, and here, in the panorama spread before us, we recall the story of the glory of this once proud city's pomp and power, and the horror of its tragedy.

It has now been more than four hundred years since the establishment of Old Panama City which, as we see, bears little resemblance to what it was in its ancient glory when it bore the title of Castila del Oro, which included that region of the Isthmus that extended west and north of the Gulf of Uraba as far as Cape Gracios a Dios, and was so called by the King of Spain, meaning Golden Castile. The name of Golden Castile was given Panama because of the definite evidence of golden plates, pipes and crude masses of ore that Columbus obtained in 1502 from the Indians in the district of Veragua.

PICTURESQUE PANAMA



A TYPICAL FRENCH RESIDENCE, ANCON.

Later Vasco Nunez de Balboa came—in 1513—his quest was gold. From the Indians Balboa had heard vague stories of a land to the south of Panama where gold was as common as iron is in Europe, and it was his ambition to reach the fabled land of El Dorado that caused the discovery of the Pacific Ocean.

From a peak in the Darien country, one hundred and twenty miles east of Panama, in the San Blas country, after twenty-six days of struggling through the dense and trackless jungle, Balboa first beheld the calm waters of the Pacific, bathed then as now in purple and rose, gold and amethyst, with the green peaks of the low hills touched by the glow of the rising sun.

History records that alone Balboa knelt in reverence, and later, when his companions joined him, they planted a cross and Balboa claimed all the land that was visible for the King of Spain. The next day he and his companions reached the shores of the Pacific, and Balboa repeated his claim by saying in a loud voice that he "claimed this unknown sea, with all it touched and contained, for the King of Spain, and that he would make good his claim against Christian or Infidel who dared gainsay it." It was on Michaelmas Day that Balboa reached the actual shores of the Pacific and because of this fact Balboa christened the gulf St. Michael (San Miguel).

As a consequence of Balboa's discovery in 1513 a new chapter

PICTURESQUE PANAMA

was begun in the history of the New World. The discovery of the Pacific Ocean only intensified Balboa's desire to reach the golden shores of Peru, and accordingly he planned an expedition southward. The ships were built on the Atlantic side and transported across the Isthmus on the backs of the Indian cargadores. The undertaking was a hazardous one and resulted in the death of a great number of the faithful Indians, some historians placing the number at five hundred, while others claim that five thousand lost their lives in thus effecting the first transit of ships across the Isthmus.

On the Pacific side the ships were re-erected and properly equipped and Balboa with four ships and three hundred men set sail for the unknown land, but this adventure of discovery was not reserved for Balboa. His plans were frustrated by Pedro Arias De Avila, the Governor of Panama, who had become extremely jealous of Balboa's success in transporting his ships across the Isthmus, his friendship with the Indians and his project to discover a new country. Pretending to believe that Balboa was planning a conspiracy to conquer the New World and to overthrow the Government at Panama, Pedro Arias De Avila had charges brought against Balboa. The charges were false, but Pedro Arias De Avila soon converted them into proofs, condemnation soon followed, and Balboa was beheaded at Acla, then the Capital of Panama, situated on the north shore of Calidonia Bay. Thus perished the brave discoverer of the Pacific Ocean, in the forty-second year of his age.

Today there is not a trace of the ancient capital, Acla,



RUINS OF OLD PANAMA.
CATHEDRAL TOWER, SHOWING SPIRAL STAIRCASE TO BELFRY.

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and there is no monument to mark the final resting place of Balboa. However, the United States authorities at Panama, in the year 1909, at the suggestion of the Peruvian Minister, changed the name of the Pacific terminal of the canal from La Boca to Balboa, thus fittingly



RUINS OF OLD PANAMA.

honoring and commemorating the memory of the great discoverer of the Pacific Ocean.

The capital of Panama was removed from Acla to Old Panama, which formerly had been an Indian fishing hamlet and bore the name of Panama, meaning in the Indian language "a place where many fish are taken." By royal decree dated at Burgos, September 15, 1519, the Emperor Charles created Panama a city, with the name of Nueva Ciudad de Panama.

Francisco Pizarro, a Captain under Balboa, had shared in Balboa's plans and ambitions to reach Peru; therefore, after Balboa's execution, Pizarro was commissioned by the Governor of Panama, Pedrarias, to carry out the project begun by Balboa, and in the city of Old Panama, 1525, Francisco Pizarro, Diego Almagro and Hernando de Luque signed the historic contract for the conquest of Peru and sailed away in Balboa's ships. After many hardships and seemingly insurmountable difficulties, and long delays they finally reached their destination and found ample evidence of the vast amount of gold in

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Peru. As this was only a voyage of discovery, Pizarro returned to Spain and obtained from Charles the Fifth the Royal Grant. Armed with this grant he hurried back to Panama and on St. John the Evangelist's Day the banner of Pizarro's Company and the Royal Standard were consecrated in the Cathedral Church of Old Panama. Mass was performed and the sacrament administered to every soldier. Reverently and solemnly the blessings of heaven were invoked upon the enterprise, after which Pizarro and his followers set sail from the Island of Taboga in 1531 for the Conquest of Peru, to christianize the infidel and to steal from the Incas their glorious gold. Shortly afterward Pizarro again appeared off the coast of Peru. The conquest of the Peruvians soon followed and a ruthless slaughter ensued. Pizarro and his followers, in the name of God and their King, ravaged the land of its golden treasure, which amounted to millions. Thus it was that the discovery, the conquest and destruction of Peru was achieved from historic Panama.

As a consequence of the Conquest of Peru, Panama, from a rude group of thatched houses became in the course of a few years a great metropolis, and was the first port through which passed the gold wrested from the conquered Incas. This gold was destined for the Crown of Spain, and the necessity of transporting the treasure across the



OLD BRIDGE THAT CONNECTED ANCIENT BRIDGE WITH KING'S HIGHWAY.

Isthmus resulted in the building of the Gold Trail or Camino Real, meaning King's Highway, across the Isthmus. This historic old trail led through the jungles and extended from Old Panama to Nombre de Dios on the Atlantic side of the Isthmus.

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Nombre de Dios was settled by Diego Nicuesa in 1507. After a tempestuous voyage, Nicuesa and his companions arrived in the peaceful little harbor that offered possibilities for a fortress, at the sight of which Nicuesa exclaimed, "Nombre de Dios"—"In the name of God." One of his companions, seeing in this an omen of good fortune, suggested that the settlement be called Nombre de Dios. A colony was founded and Nombre de Dios became the first capital of Castila del Oro.

However, the settlement was soon abandoned, but later, in the same year that Old Panama City was founded, Diego Albietes began a new settlement on the same site that Nicuesa had chosen for the capital, which became the Atlantic terminus of the Royal Highway, and here was established the first base for the gold that was sent across the Isthmus by pack train. Here was built a great treasure house of stone where the treasures were stored until the galleons of the Plate Fleet came bearing them to Spain.

The flood of gold that flowed like a stream across the Isthmus aroused the envy of the world. The dominant thought of the English pirates and buccaneers was to wrest from the Spaniards the gold and the silver they had forced from the docile Incas of Peru. Thus began that romantic and adventurous period in the history of the Spanish Main which lasted over two hundred years and which resulted in England becoming the Mistress of the seas. Sir Francis Drake, "gentleman pirate and adventurer," was the first buccaneer to attack the Spanish fortress at Nombre de Dios. This attack was made in the year 1572. "I have brought you to the mouth of the treasure house of the world," Drake told his men when they made their famous attack upon the King's Treasure House, and the concrete evidence of the truth of this statement they saw lying in heaps of golden and silver bars before them, too heavy for one man to carry. This attack proved unsuccessful because of a wound Drake received as the door of the King's Treasure House was being battered down and the treasure he sought was within his grasp. His men became demoralized, and carrying their wounded leader in their arms they fled.

Shortly afterward an attempt was made by Drake and his men to intercept and rob the treasure train as it passed across the Isthmus, but this attempt also was unsuccessful. However, Drake and his companions were undaunted and with renewed energy made a subsequent attack upon the treasure train while transiting the Isthmus on the Royal Highway. Their plans were well-laid this time, and they succeeded in capturing a large amount of gold. Drake returned to England and shortly afterward sailed back to Caribbean waters with a strong naval force. Aboard the graceful Golden Hind, he sailed into

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the harbor of Nombre de Dios and did not depart until the town was plundered, burned and destroyed.

He and his companions next sailed into the harbor of Porto Bello. The Spaniards had a small settlement here, but fled at the approach of the British buccaneers. In the harbor of Porto Bello Drake became very ill and soon died. His body, encased in a leaden coffin, was carried out to sea and lowered into the waters of his triumphant conquests. A lonely little island, near the bay of Porto



PORTO BELLO HARBOR—WHERE DRAKE WAS BURIED.

Bello, called Drake Island, is the only monument that marks the final resting place of one of the most romantic figures in English history.

After the complete destruction of Nombre de Dios, the Spaniards next turned their attention to Porto Bello, which was visited and named by Columbus in 1502. This was probably the best position on the Atlantic coast that could have been chosen as the next stronghold to store the King's gold. Here on the shores of the beautiful landlocked harbor, commanding a full view of the ocean and affording a ready means of intercourse with the interior, traversed by the Royal Highway, the Spaniards built a fort they deemed impregnable.

Porto Bello grew in importance, and at the beginning of the seventeenth century we find the city one of the most important in the

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New World and the scene of great commercial activity. Once a year a fair was held here when the merchant princes from Mexico, South and Central America and the Philippines gathered for the exchange of gold, precious stones and merchandise of all kinds. The toll of gold continued to pass over the Royal Highway and the treasure houses continued to overflow with the wealth of Peru stored behind the strong walls.

Eighty years had passed since Nombre de Dios had been completely destroyed. Many attempts had been made by the English buccaneers and pirates to take Porto Bello, but the guns of the powerful fort had more than justified the Spaniards' belief that their massive fort was capable of repelling attack either by land or by sea. Secure in this belief, they were dreaming in idle ease when Henry Morgan, the bold British pirate swooped down upon the fair city of Porto Bello and laid it in ruins.

Morgan had been sold into bondage in Barbados at an early age. His years of hardship had hardened and embittered him. Brooding in a tropical prison, he matured in his imagination vast and daring plans to become a pirate—a terror of the sea. These plans he carried out so successfully that he became one of the greatest characters in the history of sea robbers.

After his release from prison, he went to Jamaica, the rendezvous of pirates and buccaneers, and from that point he assembled his ships and four hundred and sixty men, "the scum of the seven seas, reckless, ruthless, hardened adventurers, a motley crew," and sailing into the harbor of Porto Bello made his famous and daring attack. The Spaniards, though taken by surprise, made a gallant defense, but they were no match for Morgan and his desperate men. The Governor was killed, all the gold and treasures taken, and for fifteen days Morgan and his companions occupied the city.

Those were the days "When Knighthood was in Flower," and the polite exchange of courtesies the order of the day. The Governor of Panama dispatched a messenger to Morgan before his departure from Porto Bello, with the polite and ironic request, that he "send some small pattern of those arms, wherewith he had taken with such violence so great a city." Whereupon Morgan took from his belt a slender pistol, a few bullets and an emerald ring from his finger, which he handed to the messenger with the answer to the Governor: "He desired him to accept the ring as a gift, and the slender pattern of arms wherewith he had taken Porto Bello, and to keep them a twelvemonth, after which time he promised to come to Panama and fetch them away." The Governor of Panama sent the messenger speedily back to Morgan, returning the gift, the pistol and bullets with thanks

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for lending him weapons that he needed not, and the message that "he desired him not to give himself the labor of coming to Panama as he had done to Porto Bello, for he did certify to him he should not speed so well here as he had done there."

Morgan and his band of pirates sailed away, leaving behind death and destruction, taking with them every vestige of the coveted gold, and Porto Bello still stands, one of the most interesting ruins in the New World. The treasure house is empty, the banquet halls where men "gloried and drank deep" are deserted. The old Fort San Jerome charged with a lofty mystery of stillness, italicized by the turbulent swish of the tides as they ebb and flow, washing the crumbling walls of a once proud city, rich only in romance now, where the wealth once stored was greater than Ophir's hoard.

After the destruction of Porto Bello, the Spaniards, discouraged but undaunted, decided to abandon their once powerful stronghold and accordingly removed to San Lorenzo, which defended the beautiful Castle Chagres, occupying an incomparable position at the mouth of the Chagres River. When it was decided to make this point the next base for the King's treasure, the fort was strengthened, enlarged, heavily fortified and strongly garrisoned; and here the treasure, safely guarded, was brought first over the Gold Trail by pack train to the Chagres River; thence by boat to Lorenzo, where it remained safely stored, guarded by the powerful guns of San Lorenzo, awaiting the arrival of the Plate Fleet to come with its armed convoy to transport the treasure to Spain.

With such a position and a well-garrisoned fort, the Spaniards had little to fear from further attacks of the pirates, but Morgan's threat and promise to call upon the Governor of Panama within the year carried with it a sequel that was translated into reality.

He again assembled his ships and men and sailed from Haiti, December 16, 1670, for Panaman waters and four days later arrived at St. Catherine's Island where the Spaniards had a fort. Immediately they summoned the garrison to surrender and took possession of the island. Dividing his forces Morgan remained on the island, while Col. Brodley with a force of four hundred men and four ships came on to Panama and made the famous attack on Fort San Lorenzo. The battle fought at San Lorenzo was one of the most interesting in the history of the buccaneers. Of the four hundred Spaniards in the fort there were only thirty left and ten of them were wounded. The success of the pirates was due to an accident that is interestingly told by Esquemelling, a Dutchman who was the surgeon for the expedition—

"One of the pirates was wounded with an arrow in his back which pierced his body to the other side. This instantly he pulled

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out with great valor at the side of his breast; then taking a little cotton that he had about him he wound it about said arrow, and putting it into his musket, he shot it back into the castle. But the cotton being kindled by the powder occasioned two or three houses that were within the castle, being thatched with palm leaves, to take fire which the Spaniards perceived not so soon as was necessary. For this fire, meeting with a parcel of powder, blew it up and thereby caused great ruin and no less consternation to the Spaniards, who were not able to account for this accident, not having seen the beginning thereof."

The ruins of the old fort guarding the Chagres and overlooking, in the indefinite distance, the blue water of the Caribbean, rise up majestically from the crest of the steep rock cliff against which the turmoil of the waves beats unceasingly. The once powerful moated fortress, the dungeons and the castle are overgrown with the lambent green of the jungle, but still vibrant with memories of a historic past which calls to mind not only its destruction by Morgan and his pirates but also a subsequent destruction relating to an episode in English history wherein Americans played a small part.

Both Porto Bello and San Lorenzo were restored after Morgan and his pirates had laid them in ruins and they were strongly garrisoned. Their second destruction was also the result of an attack made by the British and it is interesting to recall the facts. Captain Jenkins, an Englishman in command of a British trading vessel, in an altercation with a Spanish pirate, had the misfortune to have his ear cut off in the fray. Its loss so outraged Jenkins that he began a campaign of verbal warfare against Spain, producing dramatically on all occasions the ear which had been carefully preserved as evidence, of the justness of his claim that England should declare war on Spain.

The British Parliament, after due consideration covering a period of several years, with the pretext that it was in retaliation of Jenkins' loss, really did declare war. Accordingly Parliament commissioned Edward Vernon, Admiral, supplied him with seven ships and sent him to wage a war against Spain on the Spanish main. English history records the war humorously as the "War of Jenkins' Ear," the first battle of which took place at Porto Bello.

North America at the time—1741—was a colonial possession of England's, and the King of England issued a call for America to furnish England with four thousand soldiers as well as a large number of sailors. Over four thousand American soldiers either volunteered or were forced into service. Also a large number of sailors. Virginia sent five hundred men, commanded by Lawrence Washington, scarcely grown and the half-brother of George Washington.

The fleet composed of the English soldiers and sailors, together

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with American colonists, sailed to the Isthmus of Panama. The Spanish garrison at Porto Bello, which was small, had been ravaged by smallpox and yellow fever and the sick and apathetic soldiers were unprepared for the attack. The capture of the fort was an easy matter and was accomplished with the loss of only four men.

When the news reached London there was great excitement and rejoicing. Admiral Vernon was proclaimed the "Hero of Porto Bello." The victorious fleet then sailed to Jamaica, and after a short delay occasioned by refitting and provisioning, the expedition sailed again for the Isthmus of Panama and proceeded to attack Fort San Lorenzo. It was an easy victory, for the Spaniards were few in number and weak in resistance. The warehouses of the fort were plundered and again the fort was blown up, after which the fleet sailed away to Cartagena for further conquests. Here they met with disastrous defeat. Behind strong walls and fortresses the Spaniards repulsed the British with a deadly fire. Tropical diseases broke out among the men and it was a dejected, defeated and fever-stricken company that sailed away with Admiral Vernon. It is estimated that four thousand Americans lost their lives on this tragic expedition.

Lawrence Washington never recovered from the diseases contracted at Cartagena. His admiration for Admiral Vernon, his commander, is attested by the fact that he named his beautiful Virginia estate Mount Vernon which, after his death, became the property of George Washington.

A further interesting fact connected with Fort San Lorenzo and Porto Bello is that the forts were both restored again in 1751. When the traffic ceased passing over the Gold Trail, Porto Bello lost all importance as a port and fell into the state of decay we see today. Fort San Lorenzo in 1844 assumed a new importance when the Royal Mail Steam Packet Company for a brief period made this point a port of call, but with the building of the Panama Railroad all traffic was diverted to the new terminal. At the beginning of the world war, the United States Government maintained a wireless station at San Lorenzo and troops were stationed there until the close of the war, which brings the history of the old fort to the present time. Fittingly the poet has written—

"Still standeth San Lorenzo there
Aye, faithful at his post—
Though scoffing trees in every breeze
Their prime and vigor boast;
His garrison is but the shades
Of soldiers of the past,
But it pleaseth him, alone and grim,
To watch until the last."

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His great success in accomplishing the fall of San Lorenzo served to stimulate Morgan, who had joined the expedition with the remainder of his force, to further victories, and as Panama City was the real objective of the expedition, the conquerors began their march across the Isthmus. The heat was terrible, and the pirates, stout-hearted at first, became discouraged, but as they marched on to Old Panama, their spirits revived as the vision of glittering gold and the beautiful emeralds cleverly carved by the Incas swam like a mirage before their eyes.

The passage through the jungle was difficult. They could find no provisions on their line of march, and it was a half starved, blood-



FORT SAN LORENZO.

thirsty army of desperate men that swept down upon the city. The Spaniards were not prepared for such a deadly onslaught. The city burst into flames and a reign of terror ensued. At the end of four days the siege ended; Old Panama, that populous city containing before its destruction twelve thousand buildings, cathedrals with plate fillings of solid gold, eight monasteries, the Royal Palace of the Viceroy, two hundred palatial residences, the hospital, the King's stable and a slave market, lay in utter ruin. The suffering and agony of the remaining Spaniards touched the hearts of some of the most hardened of the pirates, but not Morgan's. His disappointment at not finding more gold infuriated him, and he tortured and racked his victims in vain to make them tell where the treasure was hidden. Time has not revealed the secret and the search for the hidden treasure in Panama today continues around the ancient ruins and the Gold Trail, over-

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THE PANAMA GOLF CLUB WITH ITS QUAINT THATCHED ROOF.
PHOTO COURTESY OF LEWIS.

grown with a tangled riot of rank jungle growth. The sturdy arches of the Cathedral St. Augustin, at whose altar Pizarro made votive supplication, is clutched in the fierce embrace of the python-like roots of a giant ficus tree—that fabulous tree of legend and epic. A glamour and spell of romance is gloriously inscribed on the old walls, every stone of which is rich in the history of the dramatic events that occurred here.

Henry Morgan sailed away victorious, and with his spoils he



A VIEW OF THE LINKS FROM THE GOLF CLUB HOUSE.
PHOTO COURTESY OF LEWIS.

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THE SANTO TOMAS GOVERNMENT HOSPITAL.

became a hero. He was knighted and, as His Britannic Majesty's Governor of Jamaica, ended his days honorably in the service of his king. The story of his misdeeds does not "point a moral," but certainly "adorns a tale" of interesting adventure.

Returning from Old Panama via the Golf Club, it is pleasant to pause for a brief view of the Golf Club House, a quaint structure built entirely of native woods with an interesting thatched roof. The building overlooks a splendid eighteen-hole Golf Course which is open the year 'round and offers all that is ideal in a delightful links. The golfer who desires a sporty course will find here all the numerous hazards that invite care and precision at every stroke, as well as a pleasant finale at the "nineteenth hole," for it is in a land where prohibition is unknown that the Panama Golf Club is located.

After leaving the Golf Club, the highway passes the race track, where all of Panama gathers once a week to witness this fascinating amusement. Passing on, we next come to Bella Vista, one of the new and modern suburbs of Panama, and soon the Exposition Grounds are reached, where many of the numerous Legations are located, the spacious and artistic Government Charity Hospital, Santo Tomas, as well as the private Panama Hospital.

We soon reach the present city of Panama which was founded in 1674. The founders of the new city were the survivors of Old Panama, and three years after the destruction of the capital, a new city had risen, not on the ruins but on a new site, which, if inferior to the ancient capital in extent, surpassed it in strength.

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This new city was built upon a rocky peninsula, three sides of which were protected by the sea wall—forty to sixty feet high and built of solid masonry—the fourth boundary was on the land and was protected on this side by a moat, the only communication with the mainland being over a drawbridge. With the drawbridge up, the city was protected from invasion in every direction.

Until the year 1821, Panama acknowledged the authority of Spain, then under the leadership of the immortal Simon Bolivar, who by revolt liberated a continent, Spanish dominion, effort and influence ceased in South America, Panama becoming a part of the country of New Granada which was later superseded by Colombia.

On November 3, 1903, Panama declared her independence, and on the sixth of November the United States Government recognized the new republic and negotiated a treaty, February 26, 1904, whereby the United States guaranteed protection to Panama and at the same time agreed to pay the sum of ten million dollars cash for sovereignty over the Canal Zone; and after 1913 an annual sum of two hundred and fifty thousand dollars, thus bringing to an end Panama's unhappy history of devastation, turbulence and insurrections.

As we view Panama City today, we view a city of charm and interest, a harmony of the past and present, the capital of a country, small in area but vast in undeveloped wealth, portions of which are yet beyond the confines of civilization and more unknown today than four hundred years ago.

The boundaries of the Republic of Panama extend from the



THE PANAMA HOSPITAL.

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PANAMA CITY TODAY.

Atrato River on the Colombian side to Costa Rica on the west. The country is three hundred and forty miles long from east to west and from north to south the distance is one hundred and twenty miles.



PANAMA BEFORE GENERAL GORGAS BEGAN HIS WORK OF SANITATION IN 1905.

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The lowest point of the mountain chain traversing the country is three hundred and twelve feet, at which point it is pierced by the Panama Canal. In Chiriqui Province, famous for its coffee and agricultural products, the mountains attain an elevation of seven thousand feet.

Spanish is the language spoken in Panama, and in spite of the American invasion on the Isthmus, Panama City still retains many of the aspects it has worn since its establishment, and with its quaint, narrow streets, red-tiled high roofs, attractive plazas and old Cathedrals, is strongly reminiscent of Spain. Portions of the old walls are



THE FAMOUS UNION CLUB IN PANAMA CITY.

still standing, the broad surface of one portion near the sea furnishing the city with its most popular promenade, known as Los Bovedas, whither Panamans delight to flock at evening time and on holidays and fete occasions. There is perhaps no city more cosmopolitan, more rich in sharp contrasts, of people, places and customs than Panama, which furnishes a background of brilliant social and civic life as well as one of squalor and dire poverty.

Where the old wall terminates begins the modern and beautiful Union Club, built out over the water with an open terrace specially arranged for dancing, which combines the unique charm of dining and dancing over the water under the light of the stars and the magic of a strange, pale moon. The Union Club has become famous as the center of many attractive social functions of both Panama and Canal Zone society.

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TYPES OF BEAUTIFUL WOMEN OF PANAMA.

The custom established years ago by the better class of Panama families of sending their children to the best colleges, either in the United States or England, still prevails, with the result that there is an interesting society of the aristocratic class, who speak perfect English and which, combined with the diplomatic corps, the Army and Navy and the Canal Zone residents, insures a social life in Panama both interesting and cosmopolitan. The beauty of Panaman women

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is traditional and typifies the grace and charm of the true Spanish type, deserving of the compliment and admiration it receives.

There are many points of interest in Panama, and particularly fascinating is a drive down Central Avenue by night. This is a brilliant thoroughfare in which both street and home life are open to inspection. Many of the shops have no windows and an amazing array of oriental merchandise is hung in the open doorways alluringly displayed to the passerby. Also on this same avenue can be seen the modern shops with plate glass windows, displaying the latest in European importations, which are as interesting to the visitor as the incredibly picturesque shops on the side streets, full of brasses, ivories, rugs, silks and all the "perfumes of Araby." Of historic interest is the French Bazaar, which has the distinction of being one of the oldest shops in the New World, having been established in 1825 by an ancestor of the present owners.

The stately and historic old churches in Panama are deserving of special mention; built with thick walls of solid masonry, capable of defense like so many fortresses they were designed to protect against invasion as well as to administer to the spiritual needs of the colonists. The Cathedral facing the Cathedral Plaza is perhaps the most imposing. Begun in 1751, the construction was delayed until 1760. The architecture is of the Moorish type with Spanish modifications.



CENTRAL AVENUE AND THE CATHEDRAL CHURCH.

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Particularly noticeable are the twin towers in early morning or late afternoon, when the sun's rays reflect the glittering sheen of the rich mosaic of mother-of-pearl shells that cover both. The interior is spacious, containing a nave and four aisles, an apse, containing a richly ornamented high altar with two side altars and an episcopal throne. A painting said to be an authentic Murillo representing the Miracle of the Rosary adds a touch of Old World interest to the interior.

Opposite the Cathedral and facing the Plaza stands the historic Hotel Central, one of Panama City's popular hostelries. It is of Spanish style architecture, thoroughly modern, but with alluring charm of foreign atmosphere. During the French canal occupation in Panama, this hotel was the scene of many dramatic events. The numerous banquets and social functions were held here during those feverish mad days, when toasts were drunk to living who were soon numbered among the dead.

It was from the balcony and entrance of the Hotel Central that excited crowds surged to witness the inauguration of President Amador, the first President of Panama, on that momentous day rendered memorable to the United States as well as Panama, when the shouts of the populace acclaimed with joy the end of their tragic struggle in working out their destiny of freedom.

The oldest church in Panama and perhaps the most artistic is the Church of San Felipe Neri, built in 1688, on the corner of Avenue B and Fourth Street. Much interest centers in the old Dominican Church at the corner of Avenue A and Third Street, because of the Flat Arch, fifty feet wide, that spans the portals. The woodwork of the church was burned in the fire of 1756 and was never rebuilt, but the flat arch still stands and the quaint legend that attaches to it is interesting.—The friar who was directing the construction of the church had the arch built as we see it standing, but it fell; a second effort was made to erect the arch and it fell again. It was then that the friar prayed for guidance. In a vision it was revealed to him just how it should be constructed, and so he placed the stones with his own hands just as we see them today and achieved an architectural triumph for it has remained intact, resisting earthquakes and time with no support other than the terminal arches, which fact has puzzled practical architects from all over the world. This old arch also played an important part in building the canal, for the reason that it had remained standing all these years was convincing proof that Panama was outside of the earthquake area, and this fact was a deciding factor in the momentous question of building a lock type canal when the question was being debated as to the feasibility of a sea-level or lock type.

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Of particular interest is San Jose Church, the Church of the Golden Altar, which faces on Avenue A, the story of which stretches back to the days of the pirates. The altar was used in one of the churches in Colonial days, when word came that Morgan and his pirates were on their way to destroy Fort Lorenzo the priests dismantled the altar and with other valuables put out to sea. The altar was lost sight of for years. Later, when Panama City was established, San Jose Church was built, and there was erected therein an altar elaborately carved, but pure white. Years later when there was noth-



THE RUINS OF SANTO DOMINGO CHURCH—SHOWING THE FLAT ARCH.

ing to fear from pirates, suddenly upon the dazzled vision of the little congregation there burst the mysterious radiance of the gleaming golden altar as we see it now, the change having been effected by the priests merely removing the white paint that had obscured the golden surface, thus safeguarding it from theft.

Foremost among the public buildings in Panama deserving of note is the National Palace, constructed shortly after Panama became a republic. It is fire-proof, the architecture being of a modified Italian renaissance style. Facing a small plaza and overlooking the sea, the building occupies a favorable position and presents an imposing appearance as the National Capitol Building, one wing of which consists of the Government National Theatre, which has a seating capacity of one thousand people.

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Another government building of which Panama is justly proud is the National Institute, consisting of a group of seven buildings opening on a court. The Institute Building possesses great beauty and dignity, and this school is filling the growing educational needs of the republic in a splendid manner. The building itself has an ideal location across from the Canal Zone at the base of Ancon Hill.

Deserving of special mention in Panama is the Archives Building, located in the Exposition Grounds. This building was only recently constructed and is one of the most beautiful buildings in Panama.

On the south of Plaza Independencia are situated two handsome buildings, the Municipal Building and the old French Administration Building which was built in 1875 and used for many years as a hotel. It was leased to the French Canal Company and used as their administration building. The Americans occupied it for a period of two years, but were compelled to abandon it on account of the fact that it was infested with the fatal stegomyia mosquitoes. It was abandoned and headquarters moved to Culebra.

Much of the beauty and charm of Panama City is due to the rare fidelity to the Spanish style of architecture which has been incorporated into the buildings, the colorful old tile roofs, adding a note of pleasing harmony. Many of the houses are interesting and quaint, with barred and latticed windows, arched doorways and mysterious walled gardens.

The Presidencia, where lives the President of the Republic, is situated within the old portion of the once walled city and is of special interest. The building is of Spanish mission style, which is characterized by a charming patio opening upon the street and is quite tropical in its arrangement of luxuriant, decorative shrubs, bordering a sparkling fountain, about which are grouped numerous snow-white egret herons, their stillness adding a note of unreality and rare beauty. A glimpse into this enchanting palace, past the military guards at the entrance, leaves a picture that will linger long in the memory.

President Chiari and the "First Lady of Panama" are representative of the Spanish aristocracy, and the charming social functions that are held from time to time at the Presidential Palace are traditional for their charming dignity and the sincerity of true Latin hospitality.

On Central Avenue and fronting an exceedingly picturesque street is the American Legation, not an imposing building to view from the exterior, but historically interesting, and one which makes a strong claim to the attention of the visitor, for it was here that the former



MADAME CHIARI.
WIFE OF THE PRESIDENT OF PANAMA



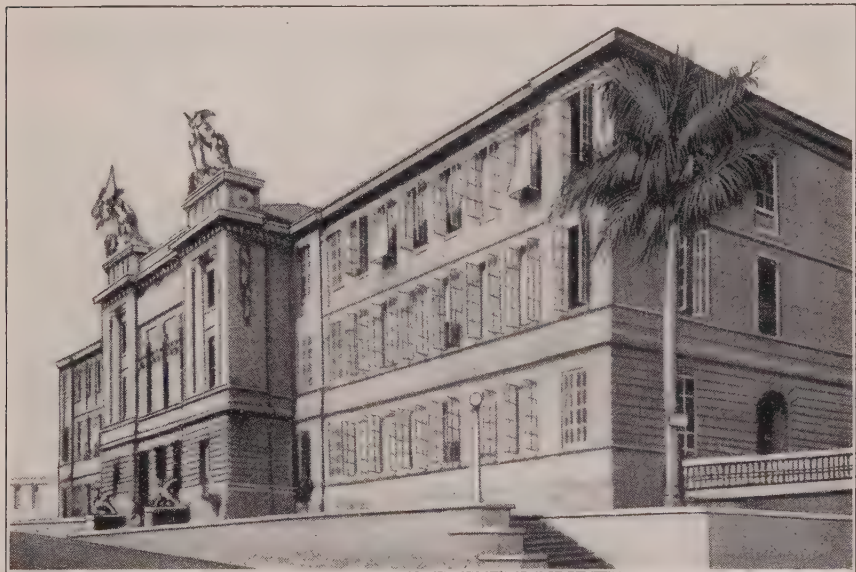
PRESIDENT CHIARI.



MRS. SOUTH, WIFE OF THE AMERICAN MINISTER. THE AMERICAN MINISTER, DR. JOHN G. SOUTH.

PICTURESQUE PANAMA

Director General of the French Canal Company made his home, and it was here that the French held the brilliant banquets and receptions during the romantic and prodigal period that played such a dramatic part in the history of Panama, under the de Lesseps regime. After the arrival of the American Canal Commission the Chief Engineer, John F. Wallace, made his home here and later on the property was purchased by the United States and since has been the home of the American Minister.



NATIONAL INSTITUTE.

The interior of the Legation is artistically and appropriately furnished with great distinction, and it is here that the affable American Minister, Dr. South, and his gracious wife, interpret in the finest sense the true meaning of Pan-Americanism. Notable among the many charming social events that center at the American Legation throughout the year is the annual reception given every Fourth of July to the American Colony in Panama.

Near the sea wall and overlooking the bay is the French Legation, an artistic building which faces a beautiful plaza, where France has fittingly erected an imposing monument to her sons who failed in that great pioneer project of building the Panama Canal.

The two main plazas, Santa Ana and the Plaza Independencia, frequently called Cathedral Plaza, are notable features of Panama and

PICTURESQUE PANAMA

are much frequented, particularly every Sunday night when the military bands play. Fronting the Plaza Independencia is the Bishop's Palace, built in 1880, also in the same building is the National Lottery, where the lottery drawing takes place every Sunday morning. The lottery is an institution in Panama that is patronized by all classes, including the residents of the Canal Zone. A portion of the money is given to the Panama Red Cross and to the Panama Charity Hospital, thus rendering the lottery ticket purchaser a volunteer contributor to these public charities.



DR. HENRY GOLDTHWAITE,
HEALTH OFFICER OF PANAMA CITY.

There are numerous clubs and organizations in Panama, prominent among them being the Rotary Club which is composed of the most progressive business and professional men in the republic. This organization is doing splendid work for the advancement of Panama along all lines.

The Elks' Club is also an outstanding organization in the republic. A beautiful new Elks' Club Building is under construction at present.

An early morning visit to the native market should not be omitted, as it is one of the points of interest in Panama. Situated at the base of the steep incline

where the historic old wall passed to the sea and housed in an open building, it is a model of cleanliness and order, due to the excellent supervision of the Health Officer of Panama City, Dr. Henry Goldthwaite. Both the cities, Panama and Colon, are under the complete control of the Health Department of the Panama Canal, which has in the past and is at present maintaining a high standard of progressive development along the lines of sanitation, rendering both the terminal cities, preeminent in Latin America as to excellent health conditions.

Looking out from Panama Bay can be seen the three small islands, Flemenco, Perico and Naos. The black line running from the islands

PICTURESQUE PANAMA

is the causeway that connects with Fort Amador, one of the most beautiful of all the military posts on the Zone. It is difficult to realize that the broad acres, grass-grown and beautified by lovely trees, and the attractive quarters, are the result of the millions of cubic yards of earth and rock which were taken from Culebra Cut in the busy days of canal construction. Flemenco, the central island in the group, was formerly used for a cemetery, and here were buried a number of naval officers and sailors who had succumbed to yellow fever and other ill-



PANAMA CITY EMBOSOMED IN THE CURVE OF PANAMA BAY.

nesses while their vessels were lying in port. When plans were being formulated to fortify these islands the cemetery was removed to Ancon Hospital grounds and later removed to Corozal. All three of these islands are strongly fortified and are grim guardians of the Pacific entrance of the canal.

In the remote distance beyond the fortified islands can be seen the outline of Taboga Island, which is a delightful spot and well worth the visitor's time. As part of Panama, Taboga has her traditions. It was founded in 1549 by the King of Spain, who at the time of settlement freed all the Indians who were then slaves of the Spaniards. It is recorded that when the news reached Old Panama that Morgan and his men were crossing the Isthmus to attack the capital, the

PICTURESQUE PANAMA

"monks and friars, laded with heaps of tall candle sticks of purest silver, crosses, crucifixes and goblets of purest gold" and "very fair to look upon and sore to part with" put out to sea, and upon arriving at Taboga



FORT AMADOR AND FORTIFIED ISLANDS
IN THE DISTANCE.

PHOTO COURTESY OF LEWIS.

and the small adjoining island, Taboguilla, proceeded to bury the golden treasure. But Taboga of recent years



HOTEL ASPINWALL, TABOGA.

has become famous as a pleasure island rather than as a treasure island, and the hotel which was built by the French and used as a sanitarium is open the year 'round and is the scene of many festive parties throughout the year.

In the "forties" Taboga enjoyed a period of great prosperity and affluence, and was considered a port of great importance with a large fleet of steamers calling weekly, and we find it listed in the old charts of the English Admiralty as "an island in the Gulf of Panama with a safe harbor, good water and an abundance of tropical fruits, pigs and fowls". How-



PALM FRINGED COAST OF THE ISLAND
OF TABOGA.

PICTURESQUE PANAMA

ever, with the advent of the French, the glory of Taboga waned and it was during their regime used as a health resort. The Americans also appreciated the benefits of the delightful climate, cool breezes and good water, and followed the example of the French. During the construction of the canal, they maintained a hotel there where patients were sent when dismissed from the hospital to convalesce.

The island is a popular resort and is much visited by tourists, Panamans and canal employees, who go there for a quiet and restful week-end. There is a quaint little village, an interesting old church, a palm-fringed coast washed by a scale of blue and ultramarine water, while in the background is the outline of the green hills, at the base



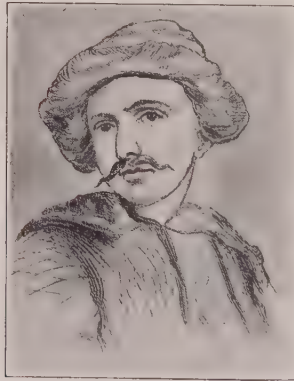
H. M. S. RENOWN ENTERING MIRAFLORES LOCKS WITH PRINCE OF WALES ON BOARD, 1920.

of which nestles a beautiful grove of tamarind trees—the very name tamarind striking the ear like a note of music. Such is Taboga—the gem of the ocean.

Beyond Taboga, some forty miles from Panama City, is the famous group of islands known as the Pearl Islands. The Spaniards called them King's Archipelago, and from the pearl fisheries, which are of ancient origin, were obtained many pearls of surpassing beauty. The pearls of Panama have for centuries been famous for their size and a lustrous silvery sheen, rather than the soft golden tint of oriental pearls. Many of the more famous taken from the Pearl Island fisheries are now in possession of the Royalty of Europe. Because of neglect and carelessness the fisheries have been overworked of late years and the industry of the island of collecting pearls is a languishing one at present.

P I C T U R E S Q U E P A N A M A

The return to Panama from Taboga is made quickly, and as we glance back at the green-blue slopes of the mountains, the coast of the tiny island is outlined against a golden rosy haze and its green shores soon become unreal like a far-away vision. Before us lies beautiful Panama City, embosomed in the curve of Panama Bay, with a sky of brilliant blue that melts into grey, misty clouds—a canvas of raw throbbing pigments backgrounded by grey-green hills and nodding palms, of which Pennel, the great artist, wrote—"Panama as beautiful as Naples or Tangier, yet hardly a tourist knows it." However, this was written when the work of building the canal was at its height and when the importance of the stupendous undertaking had blotted out every other interest in Panama. Today the tourists are coming here by the hundreds and Panama is destined to be as popular as Naples or Nice with her historic background, foreign charm, great natural beauty and numerous delights that it hospitably offers the passing world.



SIR HENRY MORGAN.

The Panama Railroad

THE PANAMA RAILROAD

IT would be difficult to over-emphasize the historic and economic importance of the Panama Railroad to the Americas and to the world, for its history is the history of a realized dream of thinking men who for centuries had recognized the importance of a free inter-oceanic communication at the narrow strip of land known as the Isthmus of Panama.

It is necessary, before considering the Panama Railroad as it exists today, to glance at the background of the historical forces which



ASPINWALL, CENTRAL AMERICA, 1857. THE PANAMA RAILROAD TRAIN STARTING FOR PANAMA.

produced it. Its early beginnings antedated those of North America many years and our successful efforts were but a renewal of many previous attempts to construct a rail-and-water communication between the Atlantic seaboard and the Pacific Ocean.

England, inspired by the appeal of the benefits which would result from the shorter trade route to her possessions in the East, investigated the possibility of building a railroad or a canal, but the stupendous magnitude of such an undertaking discouraged her and the project was abandoned. France, ambitious also, entered into a contract to establish a railroad and a grant for this purpose was made by the Government of New Granada (the Colombian district was disrupted in 1831 and the region of Panama became known as New Granada)

THE PANAMA RAILROAD

to Mateo Kline in 1848, but the many obstacles and huge sums of money required for its completion discouraged the contractors to such an extent that the contracts were defaulted within the year.

It was then, with the changing of the North American boundaries when we came into possession of Oregon, and the war with Mexico giving us California, that the attention of North America was properly aroused to the necessity of a shorter route to the almost (at that time) inaccessible possessions.

Meanwhile the discovery of gold in California which attracted the multitude of "Forty-niners" who, urged on by the true spirit of the pioneer and a cupidity that was dauntless, flocked to the Isthmus in such numbers that the need was infinitely increased for a regular line of steamships between the Atlantic and Pacific ports.

Accordingly, to meet this suddenly increased need, the North American Congress hastened to authorize contracts for the establishment of two lines of mail steamships—one from New York and New Orleans to Panama, and the other to connect with this by the Isthmus of Panama to California and Oregon. Mr. William H. Aspinwall secured the line on the Pacific side and Mr. George Law the line on the Atlantic side. Aspinwall was a man of vision and in securing the contracts for the steamship line it was his plan in the beginning to build a railroad across the Isthmus. Together with his associates, John L. Stephens and Henry Chauncey, they entered into a contract for the construction of an "Iron Road across the Isthmus of Panama". However, before the contract was ratified, the services of Mr. G. W. Hughes of the United States Topographical Corps were engaged and he, accompanied by a large party of engineers, came down from New York for the purpose of mapping and surveying and locating the road. Their report that a railroad across the Isthmus was a practical and feasible proposition corroborated Mr. Stephens' own opinion. Mr. Aspinwall immediately returned to New York and conjointly with his partners, John L. Stephens and Mr. Henry M. Chauncey, incorporated under the name of Panama Railroad Company and a formal contract was entered into on April 15, 1850, with the Government of New Granada for the exclusive privilege of establishing "an iron Railroad between the two oceans across the Isthmus of Panama".

The route the engineers selected for the Panama Railroad crossed the lowest pass to be found between the oceans in any part of the Americas and also at the narrowest part of the Isthmus, the distance by air line being little more than thirty miles. Geologists state that the Isthmus has existed as land above water since the tertiary period and that through the ages it eroded, greatly, until the Culebra Gap was only five hundred feet above the sea; the topography consisting of a

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costal plain on the Atlantic side ascending to the mountains and then the narrower costal plain along the Pacific coast.

The Isthmus, as can be seen, is in the shape of an arc running east and west convexing toward the north.

This contract was liberal in its terms and granted to this company the right of operating the road for a period of forty-nine years from the date of completion. It was stipulated that the construction should not occupy a longer period than six years. The engineers secured on the construction of the road were Col. G. W. Totten and John C. Trautwine, and under their capable guidance the work on this gigantic undertaking was begun in May, 1850.

The inauguration of the actual beginning of the work was marked with no "imposing ceremonial or breaking of ground," but with a primitive simplicity. Mr. Trautwine and Mr. Baldwin with a few Indians armed with machetes began work at the Island of Manzanillo which is now known as Colon. The first thirteen miles of the road traversed dense jungles which were a morass of pestilential dangers infested with snakes and poisonous insects. In Seeman's "Voyage of *H. M. S. Herald*" we find a graphic description of this region:



COLONEL GEORGE W. TOTTEN.

"In all muddy places down to the verge of the ocean are impenetrable thickets of mangroves, chiefly rhizophoras and avicennias, which exhale putrid miasmata. Myriads of mosquitoes and sand flies fill the air, while huge alligators sun themselves in the slimy soil."

Despite the discouragements, dangers, and seemingly insurmountable obstacles, these brave men pushed on and worked painstakingly and methodically for the achievement of their ideal—a completed railroad.

The country was almost entirely without resources; the food and materials had to be shipped thousands of miles. The natives, apathetic and unaccustomed to labor, could not be relied upon and all labor had to be imported. And from all points they came: natives from the coast, West Indians, English, Irish, Germans, coolies and Chinamen, and all with the same result. Death thinned their ranks until it looked for a time as if the work would have to be abandoned. It became

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increasingly difficult as the work progressed to get more men, for the gruesome and weird stories of the "Hell Strip" which had proven a graveyard for such a vast number had spread abroad. The plan to import a boatload of Chinese laborers was finally decided upon; and eight hundred eventually arrived. The story of their ill-fated expedition to a land where they expected high wages and an eventual triumphant return to China is one of the many tragedies connected with Panaman history.

Soon after their arrival in the unfamiliar land of strange customs, they became morose with homesickness and fear. Added to their misery was the fact that because of a Maine opium law which on some pretext had been enforced on the Isthmus, the use of opium was prohibited because of the "immorality of administering to so pernicious a habit", and they were deprived of their accustomed daily portion of the drug. A heavy melancholia settled upon them. In their ears they heard but one sound, the mournful dirge of death, and with that strange complexity of their natures, they brooded wistfully for their native land; the promised land of their fanciful vision had proven too terrible to even endure, and with that passive resignation so characteristic of the Chinese they committed suicide, choosing weird and unexpected ways. Some hung themselves with their queues, others cut their throats, and some paid their last money to their companions to shoot them; and again in groups they joined hands and walked out beyond the margin of the sea and met their fate stoically as the turbulent incoming tide bore them out to the ocean. A watery grave was preferable to the land they found so unbearable. The small remaining group, numbering scarcely two hundred, sick in body and spirit, were sent by the engineers to Jamaica.

The next importation of labor proved almost as unsuccessful as the Chinese. A shipload of Irishmen arrived from Cork, Ireland. Immediately upon arrival they succumbed to the fatal fevers and scarcely a day's labor were they able to perform. The few survivors were shipped to New York where most of them died from diseases contracted in Panama. The work was completed with laborers from Cartagena, Jamaica and East Indians.

From the beginning it was difficult to run the lines through the swamps and as the work progressed it became increasingly so. In the reports of the engineers under Col. Totten we find the statement that they failed to find the bottom of portions of the swamp at 180 feet but, undismayed, later repeated their efforts with renewed force and effected a causeway by throwing in tons of wood, rocks, brush, etc., and at last literally floated the tracks over the jungle swamps.

An interesting story found in the private papers of Colonel

THE PANAMA RAILROAD

Totten tells of an incident in connection with filling the seemingly bottomless pit known as the Black Swamp, near Gatun, and is retold as follows:

The holes would not fill. William Thompson, who later became a passenger conductor on the railroad, was sent to Gatun Lake by Chief Engineer Totten with orders to fill in a designated part of the lake. Thompson kept running his cars to the lake, unloading and returning for more dirt and stone. Days and months passed. Still the measurements evidenced no material difference of depth of water where



PANAMA RAILROAD STATION, PANAMA CITY.

the dumping had been carried on. Thompson becoming discouraged, sought his chief, and after explaining his trouble, handed in his resignation. Totten leaned over his desk and put these questions to Thompson, the disconsolate:

"Have you any other job in view, Thompson?"

"No, sir."

"Are you tired of the job?"

"Looks that way, Col. Totten."

"Are you afraid that the Company has not enough money to pay you, Thompson?"

"It is not that, Col. Totten, but you see, sir, I've worked faithfully to fill up that hole and I don't seem to make any impres-

THE PANAMA RAILROAD

sion on it, and I thought it was my fault, and that you could find a man to do it better."

"Now Thompson," said Engineer Totten, smiling, "you go back to your hole, take your cars and keep on filling until you get the bottom covered and I will tell you when to stop, and you will find the bottom."

And he did.

Notwithstanding all of these difficulties and discouragements, the road was successfully completed in 1855, just five years from the date of the beginning of its construction, at a total expenditure of \$7,407,535.00. The frightful toll of death, evidenced by the hundreds of wooden crosses that marked the graves of those who succumbed, gave rise to the epigrammatic and gruesome statement that "every tie in the Panama Railroad represents the life of some man who paid the price of its construction with his life."

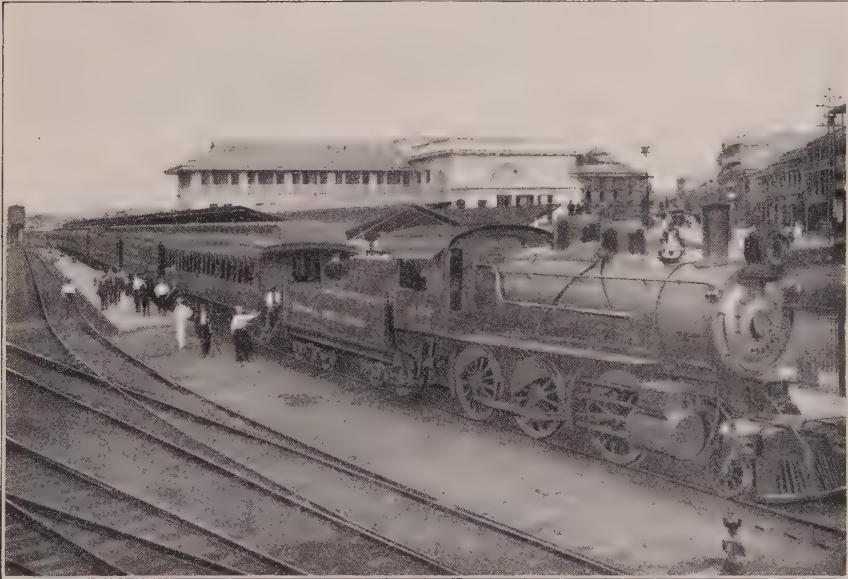
The honor due these intrepid engineers, who with their men held to duty when it was more reasonable to leave it, has never been given; and the tragic fate that befell many of them has not been written in epic, song or story. Their only monument today is the Panama Railroad, the completion of which marked one of the greatest achievements of the age and will ever be a memorial to the dauntless courage of its brave builders and their story is one of the most gallant in the annals of commerce.

That Col. Totten was the dominating force back of this ambitious project is evident by the reports, and his energy and almost super-human endurance in prosecuting the enterprise is amazing. Ten years he spent in Panama, the first five in construction and the second five years in operation. He was employed after the completion of the road as Manager. Shortly after its inauguration, Col. Totten was stricken with yellow fever. For days he lingered between life and death. At last his Spanish doctor told him and his family that there was no hope for him. Hearing this, Col. Totten roused himself and with the same indomitable courage that had marked every step of his work in building the railroad said, "You are mistaken, sir; not yet. What is to become of the road? Yellow fever can't kill a Totten. I am going to get well!" And he did.

The inauguration of the Panama Railroad is graphically described in the Daily Courier of Aspinwall, New Granada, February 24, 1855. There was a special train with guests and at all the stations floral arches were erected. The day ended with a grand banquet at the Aspinwall Hotel, the social center at that time of Panama. The editorial of this issue of the Courier is interesting:

THE PANAMA RAILROAD

"The communication between the two oceans (Atlantic and Pacific) by railway may now be considered permanently established. The iron was connected on the evening of January 27th and on the following day (January 28th) that sure harbinger of North American civilization and triumph, the 'chariot of fire', came thundering over the summit and down the Pacific slope. It was a glorious sight to witness the 'iron horse' and his rider pursuing his perilous journey over fearful chasms, through mountain gorges, along pleasant valleys, winding around hoary mountain tops and perched upon a narrow



PANAMA RAILROAD PASSENGER TRAIN, 1927.

shelf of mountain rock in mid-air. On, on he went, over rivers, through dense forests, plunging clear through the awful swamps, and ever as he went there came up from the caverns of the hills strange sounds and echoes that had not been disturbed since that day 'when the heavens and earth were finished and all the hosts of them.'

"The people of Panama who had been anxiously awaiting the arrival of this strange visitor greeted its approach with such a cheer of hearty good will as made the welkin ring again. Even the dimples on the placid face of the Pacific seemed brim full of happy smiles as her waves coquetted with the shore.

"Col. G. W. Totten, Chief Engineer of the Road, J. M. Center, Vice-President of the Company, Dr. T. C. Barker, one of the Medical

THE PANAMA RAILROAD

Officers of the Company and a few citizens composed the party which left the summit and passed over the track on that occasion."

The following highly entertaining account of the inauguration of the road, as sophisticated New York viewed it, is worth copying. The Daily Courier, issued in Panama, in the issue of Friday morning, February 16, 1855, had the following from the New York Mirror:

"A SUBLIME BRIDAL—TWO OCEANS WED."

"Invitations are out for the most sublime and magnificent nuptials ever celebrated upon our planet, the wedding of the rough Atlantic to the fair Pacific Ocean. An iron necklace has been thrown across the Isthmus; the banns are already published and the bridal party will leave this city on Monday next, February 5th, to perform the august ceremony.

"Some seven millions of dollars have been spent in achieving this union, but the fruits thereof will soon show it has been money well invested. Across the bosom of the Isthmus the golden products of our Pacific borders and the incalculable treasures of the distant Orient are destined to flow in unremitting streams.

"The stupendous enterprise of uniting the two oceans which embrace the greater portion of the globe, we are proud to say, was conceived and executed by our own citizens in the frowning face of obstacles that none but Americans could have overcome. The swamps, the mists, and miasmata of the Isthmus drove all the engineers of Europe home in despair who contemplated the gigantic undertaking and the herculean work was left to the hands and hearts of men in whose vocabulary 'there is no such word as fail.'

"The engineers of England and France pronounced the project utterly impracticable. To the late lamented Aspinwall, his associates and others, the world is indebted for the completion of the Great Bond—this commercial linking of the hemispheres—an enterprise so full of poetic sublimity and so fraught with interest coextensive with the whole earth may well command the attention of the whole world and deserves to be fitly inaugurated."

That the editor of the Aspinwall Courier was a loyal American is evidenced by the following:

"Passengers bound to California left here on the morning of the 16th and had an agreeable and expeditious transit across the line. To the United States belongs the honor of this work. From its inception to its consummation, it is purely American—American genius conceived

THE PANAMA RAILROAD

the plan; American science pronounced it practicable; American capital has furnished the sinews; and American energy has prosecuted the gigantic enterprise to its completion in spite of the most formidable difficulties."

From the beginning of the Panama Railroad's history, to its offices have been delegated unique and unusual activities, perhaps none so strange as the enforcement of law in those early days of lawlessness when New Granada was too weak and unstable to safeguard the property and maintain order. Full power was given to the railroad by the government, and the railroad officials became the recognized police of the Isthmus. That they were successful along this line was due to the fact that they employed an armed guard of forty men who were placed under the command of a Texas Ranger, Ran Runnels, who was famous in his day for daring and fierce exploits in the cause of order, and on the Isthmus he became a terror to a group of outlaws who infested the place.

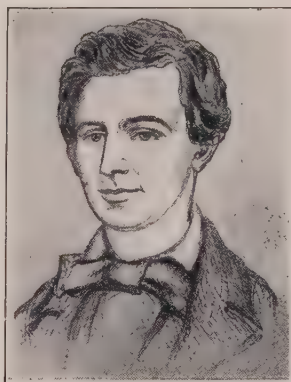
A description of his personal appearance, as related by a writer who visited Panama when Runnels' word was law is interesting:

"The casual observer would not mark anything very formidable in the delicate organization of the bold Ran. He is of short stature and of slightly-built frame. His hand is small and looks better suited for a lady's kid glove than to handle a bowie knife or revolver.

"His boyish, well-combed head and delicate features indicate little of the daring spirit of the man, but there is a close resolute pressure of the lips, a commanding glance of the eye, a sinewy wiryness of the limbs, and an activity of movement, all of which are in character with his bold determination and lively energies.

"His guard of forty are not very impressive in appearance. A military martinet might object to such a loose assortment of bravos of all colors, heights, and varieties of dress. A bare-footed, coatless, harum-scarum looking set they are, and might easier pass for the forty thieves than that number of honest guards. However, with Ran Runnels at their head, they have cleared the Isthmus of robbers and kept thousands of unruly laborers in wholesome subjection.

"Whipping, imprisonment, and shooting down in an emergency, have been liberally inflicted in the exercise of the powers delegated by



RAN RUNNELS.

THE PANAMA RAILROAD

the Governor of New Granada to the Company which has the power of life and death on the Isthmus, without appeal."

The completion of the Panama Railroad marked a revolutionary period in the world's traffic, and the immediate effects on transportation of the rapidly increasing demands of commerce were such that they could not be met at the beginning.

All the money the company had had been spent on the road's construction; the equipment was inadequate and it was a grave question that faced the railroad officials—a definite curtailment of the road's operations meant not only a great loss of money but also a loss of prestige. For this reason the management in Panama conceived the idea of getting out a rate card that would be so prohibitive in price that only a limited number would travel via this expensive route. The charge for first-class passage one way was \$25.00; second-class \$10.00; personal baggage 5 cents per pound and express \$1.80 per cubic foot. The card, which was more or less of a joke and only intended to bridge over a critical time, was duly forwarded to the New York General Offices with the explanation that the tariff would be reduced to reasonable limits in the near future. It was with utter astonishment that the management in Panama received from the New York office the statement that the rates had been accepted without protest and, more astonishing still, is the amazing fact that for a period of twenty years these exorbitant rates were unchanged.

It is small wonder that during this time the company paid a 24% dividend with an occasional stock dividend. The gold seekers continued to come and Panama enjoyed a period of affluence and importance, and the eyes of the world were focused upon her, for the completion of the railroad had but served to stimulate the ambitious dream that nations had indulged in for over two hundred years, of a canal from ocean to ocean. With the increased revenues, progress manifested itself in every department of the road. Splendid terminal wharves were erected and many improvements made. New cars and engines were purchased, hospitals were established and medical attendance was free. A well equipped library and a billiard hall contributed much to the pleasure of the employee and it was the Panama Railroad that was administratively responsible for the quaint church known as Christ Church-by-the-Sea, erected in 1865, and which is today the most picturesque place of worship on the Isthmus.

The railroad was maintained by a highly specialized subdivision organization which was extremely simple in operation as compared with methods used today. Every four miles stations were erected, the house being used for the residence of the track master, and under his supervision there were ten laborers who looked after the intervening

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CHRIST CHURCH, COLON, BUILT BY THE PANAMA RAILROAD IN 1865.

road. There were twelve track masters and one hundred and twenty laborers, and it was in this manner that the road was kept in perfect condition. However, with the prosperity of the road at its height, there came a dark sequel which had two contributing factors. First, a change in the political life of Panama when New Granada was superseded by the Republic of Colombia, and the original concession given the railroad for a period of 49 years was modified August 16, 1867, to ninety-nine years with heavy impositions on the railroad company which made serious inroads upon its revenues. One million dollars was paid then to Colombia and a subsidy of two hundred and fifty thousand a year was exacted besides having to transport "free of charge troops, chief officers and their equipage, ammunition, armament, clothing and similar effects that may belong or be destined for the immediate service of the Government of the State of Panama." In the report for one year after this measure was put into effect we find there were 4,663 first-class paid fares, while 11,098 passengers and 6,601 troops were carried free.

The second cause of the road's waning glory was attributed to the fact that May, 1869, marked the completion of the Union Pacific Railroad, and travel to and from California was directed to this convenient transcontinental route. The business of the Panama Railroad

THE PANAMA RAILROAD

began to decline rapidly, and until the French took up the problem of building a canal we find the finances of the company at a very low ebb. The stocks that had once sold for \$335.00 could be bought for \$60.00.

However, this depression in the road's affairs did not continue long, and a new impetus was given to all commerce in Panama with the arrival of the *Compagnie Universale du Canal Interoceanique* on the Isthmus to construct a canal, and we find the Panama Railroad stock at this time listed at \$100.00 per share. It was soon evident to de Lesseps, the French engineer who was at the head of the French Canal Company, that it was highly important to obtain full control of the railroad in order to construct the canal, and accordingly he began negotiations to buy out the Panama Railroad. Immediately the shares jumped to \$291.00, but this fact did not deter de Lesseps, and in 1881 the French Canal Company bought 68,887 shares of the 70,000 outstanding stock, and thus the control of the Panama Railroad passed into the hands of the French Canal Company.

However, surprising as it may seem, there was very little visible change in the status of the road with the inception of the French control, which was due to the company's charter given in 1849 from the State of New York, which stated expressly that ". . . the Directors should be annually chosen in the city of New York and on such notice as shall be directed by the laws of said corporation." It was de Lesseps' intention to remove the New York office to Paris, and it was a blow to him when he learned that under the terms of the charter it would be necessary to continue the American organizations in New York. However, the policy of the railroad's affairs was dictated by the French Canal Company and appointments of the New York officials made by them.

The reign of extravagance that marked all of the French canal operations also affected the railroad; there were some improvements in equipment and terminals, and much unnecessary machinery was purchased, including snow plows. We find in the reports that the Director General rode in a car costing forty thousand dollars. The road was run on a correspondingly lavish scale; large salaries and much graft were the order of the day, and when the French Canal Company collapsed in 1888 the railroad organization went to pieces also and there was a demoralized condition generally in the road's affairs until the Canal Commission arrived in 1904.

The vicissitudes with which the past history of the Panama Railroad is so strongly marked came to an end with the arrival of the Canal Commission, and a new era began.

In 1904, shortly after the Republic of Panama was established, the United States Government paid the French Canal Company forty

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PANAMA IN 1865.



COLON'S FIRST RESIDENCE.



THE RAMPART OF PANAMA, 1855.



WHEN COLON WAS ASPINWALL.



CROSSING THE ISTHMUS IN THE OLDEN TIME.

THE PANAMA RAILROAD

million dollars for its properties, and of this amount seven million was paid for the Panama Railroad with its franchise and all rights. This included about 43,000 acres of land that went with the railroad property and was included in the terms of the original franchise of the Panama Railroad property. This land, which includes practically all of the city of Colon, was to revert back to Colombia at the expiration of the franchise. Therefore it will be readily seen that this land can not be sold. However, the Republic of Panama, as a successor to the Republic of Colombia, transferred in the treaty between the United States and Panama in 1904 all of its rights to be acquired at the expiration of the franchise. Therefore the United States purchased the Panama Railroad from the French Canal Company with the complex result arising from this purchase that through the Panama Railroad the United States became the owner of much valuable land in Panama but can not sell it under the terms of the franchise given for 99 years and which does not expire until 1966. Meanwhile the Panama Railroad, as a successful real estate dealer, makes leases of the land in question to the highest bidders for the desired term of years.

With this complication of ownership it is not surprising then that the Panama Railroad as a historical creation, should baffle and defy

definition—a corporation at times, a government organization, and again an institution—but at all times independent and a necessary and vitally important adjunct to the governmental interests in every department of its economic existence on the Isthmus.

The property of the railroad transferred to the United States Government from the French Canal Company consisted of 48 miles of single track with 26 miles of siding, thirty-five loco-



OLD FRENCH ENGINES.

THE PANAMA RAILROAD



COLD STORAGE PLANT. COMMISSARY DIVISION CRISTOBAL.

tives, thirty passenger cars, and about 900 freight cars, all of which was more or less obsolete and greatly deteriorated. Engines, cars and machinery were scattered over the entire length of the road and overgrown in many instances with rank vegetation.

It was this state of affairs that confronted the famous engineer, Mr. John F. Stevens, who arrived on the Isthmus in 1905, and it was his genius, coupled with much hard work, that brought order out of chaos. Mr. Stevens had full charge of the railroad as well as the canal. The railroad was strengthened and double-tracked, and wherever it could be used to an advantage, was made an instrumentality in canal construction, which was not difficult because of the fact that the road was in general parallel with and close to the canal axis and connection between the canal and railroad, particularly in the "Cut," was easy to make.

With full government control, and as an adjunct to canal construction, we find the Panama Railroad assuming a new importance—its history fused and overlapping that of the canal and all of its activities, which were stupendous, subordinate to the important task of canal construction.

One of the most important achievements at this time was the reconstruction and relocation of an entirely new railroad, made necessary by the Isthmian Canal Commission in 1906, when plans were

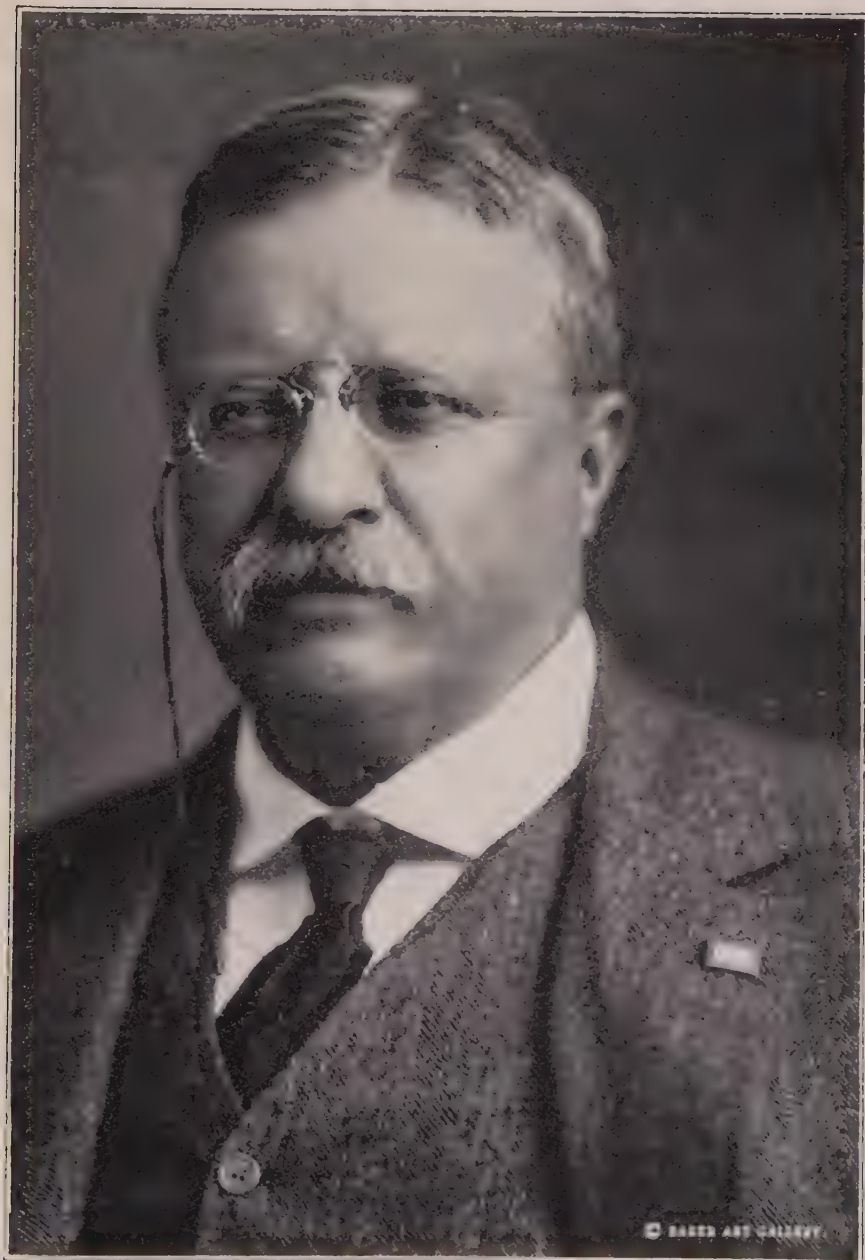
THE PANAMA RAILROAD

made for a lock-type canal. The new relocation of the road was built on a higher level. It was finished in 1912 and is the present line of the Panama Railroad. Its length is 47.61 miles. The side tracks, yards and other operated tracks represent 183.664 miles.

Aside from the Railroad Company's many operations on the Isthmus, it owns and operates a splendid line of steamships plying between New York and Cristobal on the east coast, and on the west coast between Panama and Guayaquil and Buenaventura, Colombia. The important work accomplished by the railroad and steamship line during the world war is a definite illustration of the high degree of organization attained by the road in efficiency, which enabled them to achieve remarkable results.

As a great enterprise the Panama Railroad has and is rendering service to the public which has more than justified its corporate existence. It has dealt successfully with every problem of commerce, and as a part of the Panama Canal its interests are the interests of civilization.

The Panama Canal



THEODORE ROOSEVELT, WHO LEFT TO THE WORLD THE ENDURING MONUMENT, THE GREAT PANAMA CANAL.

THE PANAMA CANAL

THE LAND DIVIDED, THE WORLD UNITED, is the motto of the Panama Canal, and one more fitting could not have been chosen, for in those few words are embodied the realized dreams of the ages, beginning with a period that stretches back to the time when the seas were uncharted and it was written that "the ocean encircles the ultimate bounds of the inhabited earth and all beyond is unknown."

In the years 1269 and 1295 Marco Polo, a Venetian, visited China. He brought back to his native land marvelous tales of the



COUNT AND COUNTESS DE LESSEPS WITH THEIR NINE CHILDREN.

beauties and wealth of Asia which resulted in a vast trade being developed with the Orient, and for a time Europe enjoyed an uninterrupted intercourse, via the Mediterranean, thence overland via routes that later became closed. It was during this period that gunpowder, printing and the compass were introduced into Europe from China. These trade routes, even though difficult and circuitous, involving long periods of travel, were highly important. They were closed by the Turks, who were Mohammedan and hostile to the Christians. For two centuries the Christians had been trying to impose their faith on the Turks through crusades. When Constantinople, the free port, fell into the hands of the Turks in 1453, it was a religious barrier that deprived the great trade centers, Genoa and Venice, of the established route to India.

THE PANAMA CANAL

Genoa and Venice were rival cities and in 1298 they engaged in a naval battle. The Venetians were defeated and among the prisoners taken was Marco Polo, the great traveler whose "hobby was seeing the world," and it was while in prison in Genoa that he wrote his remarkable book, "The Travels of Marco Polo." This book was widely read and exerted a powerful influence upon subsequent discoveries when the necessity for opening a new route to India in the fourteenth century became the chief concern of Europe. Marco Polo's travels were read and reread, and his thrilling account of the land of wealth and beauty fired the imagination of Christopher Columbus and aroused in him a desire to find a way to reach the shores of this land of promise. When Columbus started out upon his perilous voyage of discovery, it was to find Marco Polo's Cathay (Northern China) and it was his perseverance that caused him to press on in the face of discouragement. His companions believed they were sailing in a "shoreless sea of haughty winds." The story of this hazardous voyage that resulted in the discovery of a new world is old, but ever new in the retelling and invested always with the romance of the unexpected. That he did not discover the "secret strait" on his fourth voyage certainly was not due to lack of persistence—and he little realized when he touched the unpromising shores of the Island of Manzanillo that he had really discovered the shortest possible route to India and that on that spot would arise the terminal city of the great waterway which eventually would divide the land and unite the world.

Viewed across the years, the canal idea seems remote in the distance, but from the time of Columbus' discovery until the time of the completion of the canal project, the idea of a waterway across the Isthmus of Panama was germinating in the minds of men. The completed canal is but further proof of the statement that "All thought works out in *action*." The history of the attempts, plans, projects, examinations and surveys, beginning with Charles V, King of Spain, to construct a transisthmian canal would fill volumes and are the records of several ambitious countries, including the United States, who as early as 1825 made tentative steps along this line. The successful completion of the Panama Railroad in 1855 gave a renewed stimulus to the canal idea, and in 1877 we find Lucien Bonaparte Wyse of the French Navy in Panama making surveys and examinations for an interoceanic canal in Panama.

The Colombian Government granted Lieutenant Wyse a concession for excavating a canal between Colon and Panama along the Chagres River and following the same route as the Panama Railroad. In 1879 the International Canal Company was called together in Paris. This company purchased the concession that Lieutenant Wyse

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THE UNFINISHED SEA LEVEL CANAL AS VISUALIZED BY DE LESSEPS.

had obtained from the Colombian Government, definite plans were formulated for a ship canal across the Isthmus of Panama, and Ferdinand de Lesseps, whose success in triumphantly completing the Suez Canal had given him a world-renowned prestige, was put at the head of the company. This company was known as the Universal Inter-oceanic Canal Company, and December 30, 1879, de Lesseps, past seventy, accompanied by his beautiful wife, a native of Mauritius, and the International Surveys Company, composed of brilliant and distinguished French engineers, arrived on the Isthmus of Panama.

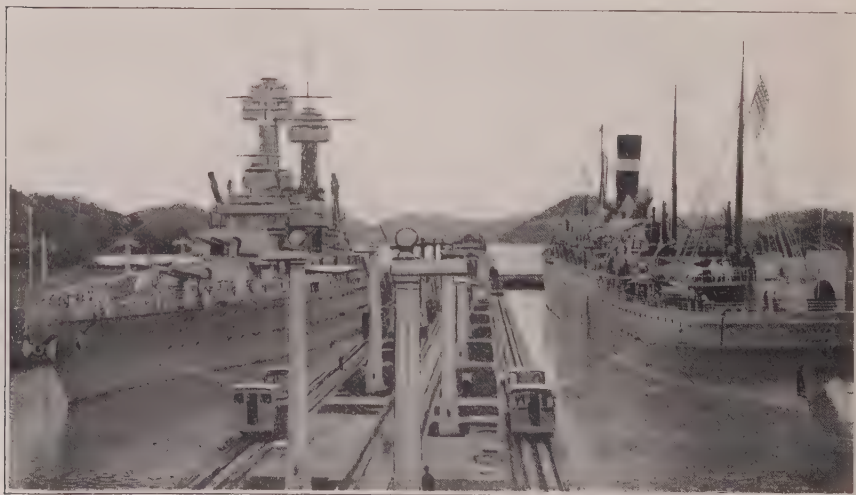
This date marked the first definite beginning of the building of the Panama Canal. There was a thrill of activity and excitement in the air which was communicated to every portion of the Isthmus with the arrival of this magnetic and forceful, but impractical man. Receptions were given, toasts were drunk to the success of the enterprise, and the long periods of inactivity and melancholy that had hung over Panama since the prosperous days of the gold rush to California lifted, and Panama again became the stage on which was played another drama that had to do with linking together the commerce of the east with the west. All was excitement. A few who are yet living tell of the vivid impression made by de Lesseps as he answered positively the questions put to him about the method of constructing the canal. "The canal will be made," dramatically he would affirm in answer to every doubt expressed. "What will be done with the Chagres River?" timidly inquired an experienced engineer, to which question de Lesseps answered without hesitation, "It is the intention to turn the upper

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river into the Pacific Ocean, thereby relieving the lower valley of floods." "This," he added, "can be done without expense. Have no fears, the canal will be made."

The plan was adopted by vote of the International Survey Congress held in Paris in 1879 for a sea-level canal. Many of the best engineers were doubtful as to the ultimate success of this type canal, but de Lesseps was persistent in his plans and overruled all objections. With due ceremony the work was launched and the construction of a sea-level canal began. Contractors, engineers and laborers thronged to Panama. They worked terrifically. Their work was good, but they were not equal to combating the "Hidden Forces" of a land that reeked with disease. The enervating climate wore them out; the inevitable toll of death, never ending but ever increasing, broke down their morale. When the cataclysm came in 1888 it was the result of the combined forces of the ravages of disease they were powerless to control, of dissipations and mismanagement.

The French had failed; the story in detail is a picturesque, grim and dramatic one, so gallant in its beginning, so tragic in its ending. The failure that brought such dire disaster to the French Canal Company ruined thousands of unfortunate investors and resulted in Ferdinand de Lesseps being tried in the French courts. His son, Charles, was tried also; both were convicted and sentenced to pay a fine and serve five years' imprisonment. Later the sentence against young de Lesseps was reversed, and the charge against Ferdinand de Lesseps never executed. His remaining days were spent as an outcast, forlorn, lonely, a wreck mentally, physically and financially. His death occurred in



U. S. S. COLORADO AND S. S. MANCHURIA IN UPPER MIRAFLORES LOCK, 1924.

THE PANAMA CANAL



U. S. S. NEVADA IN GAILLARD CUT

1893. Not only was de Lesseps on trial before the courts of France but before the world—the verdict then was harsh and his name was coupled with unkind epithets, but *time* has softened the verdict. His sincerity, his enthusiasm, his faith in himself—the qualities which had been instrumental in completing successfully his great achievement, the Suez Canal—are remembered. The opinion voiced by one writer is universal: “De Lesseps, having attempted great projects, must be measured by great standards.”

After the complete collapse of the French Canal Company, all the affairs of the company were administered through the receiver that had been appointed. Lieutenant Wyse, in order to fulfill the terms of the charter, obtained from Colombia an extension of time on the completion of the canal. The receiver appointed a new company to complete the lock-type canal that had later been adopted. A committee appointed by the receiver and designated as the Comité Technique, composed of distinguished engineers, numbering among them two Americans, arrived on the Isthmus and began the systematic and comprehensive work of compiling surveys, estimates and scientific engineering information, all of which proved to be of inestimable value to the Americans when they undertook the construction of the canal. The new Canal Company was merely a means of holding the charter and very little actual work was accomplished. To put the project on a firm foundation required millions; there were no millions forthcoming to keep afloat the bursted bubble. So far as France was concerned her sun had set forever on the canal project and the only hope for the

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GOVERNMENT MULE—
A LOCOMOTIVE.
PHOTO COURTESY OF LEWIS.

Commission of the United States, made investigations of the whole canal problem, covering all possible routes in Central America. A smouldering activity began to manifest itself in North America and the possible development of the canal idea became the important topic of the day. North America was on the verge of launching the Nicaraguan Canal enterprise when the French Canal Company agreed to sell its Panama Canal concession and properties to the United States for forty million dollars. After much controversial discussion as to the most advantageous route, the Panama route was finally agreed upon. On June 28, 1902, what is known as the Spooner Law became effective. This law embodied the following points:

(a) The purchase of rights and property of the new Panama Canal Company at forty million dollars, in-

Canal Company to realize anything on the tremendous investment was to sell the incomplete canal and the canal rights.

From the years dating June, 1899, to November, 1901, the United States Canal Commission, known as the Walker



PEDRO MIGUEL LOCKS.
PHOTO COURTESY OF LEWIS.



NATIVE CAYACO PASSING A LOCK GATE.
PHOTO COURTESY OF LEWIS.

THE PANAMA CANAL

cluding the Panama Railroad.

(b) Acquiring from the Republic of Colombia perpetual control of a strip of land with all water rights and the right to build and perpetually operate a canal, together with the right to exercise sanitary control over the strip of land at either end.



GATES OF LOCKS UNDER REPAIRS.
PHOTO COURTESY OF LEWIS.



AJAX AND HERCULES 250-TON CRANES.
PHOTO COURTESY OF LEWIS.

(c) The actual building of the canal on the Panama route.

(d) The making of all arrangements for the complete building of a canal on the Nicaraguan route, if the negotiations with Colombia or with the new Panama Canal Company proved unsuccessful.

(e) The creation of an Isthmian Canal Company of seven members, four of whom were to be skilled engineers, and of the four, one to be an officer of the Engineers Corps of the United States Army and one an officer of the United States Navy.



RANGE LIGHT AND EMERGENCY DAM.
PHOTO COURTESY OF LEWIS.

THE PANAMA CANAL



PACIFIC ENTRANCE TO THE PANAMA CANAL.

(f) The Act appropriated ten million dollars to be immediately available and authorized a further sum of one hundred and thirty-five million (besides the forty million for the purchase of the Canal Company's property) in case of adoption of the Panama route, or of the one hundred and eighty-five million in case of the adoption of the Nicaraguan route.

Negotiations were at once begun with Colombia to buy the Panama rights. Colombia sent Dr. Thomas Herran to Washington as Charge d'Affaires. Dr. Herran was entirely favorable to the American project of a canal and immediately upon his arrival in Washington began work, together with Secretary Hay, toward drafting a treaty with the result that on January 22, 1903, the convention known as the Hay-Herran treaty was signed, in which it was agreed that Colombia was to allow the new Panama Canal Company to sell all of its rights and privileges and properties, including the Panama Railroad, to the United States Government.

This treaty differed in many respects from the one adopted later with Panama, as it gave to the United States a strip of land thirty miles wide, extending across the Isthmus, and the sovereignty of the Zone was to remain with Colombia. Another point was an involved judicial system comprising three courts. We were to pay Colombia ten million dollars and one hundred thousand dollars a year rental, which was to begin after a period of nine years from the date of the ratification of the treaty. The treaty was ratified on March 17, 1903, by the United States Senate.

Fortunately (as it has proven later for the United States) the politicians at Bogota, the capital of Colombia, were plotting to hold up the eager Americans as well as the discouraged French Company.

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They put off ratifying the treaty and gave the French notice that the sum of ten million dollars would be exacted from them for the privilege of selling their canal concession. There was much apprehension on all sides. Secretary Hay informed Dr. Herran that the treaty must be signed if Colombia was going to consider it. In the charter of the French Canal Company there was a clause stating that if the canal were not completed by a certain date, September of 1904, the concession and entire undertaking would revert to Colombia. Realizing the advantage she would thus gain by her failure to sign the treaty, Colombia unscrupulously planned to get from the French all the properties and privileges that the French were selling to the United States for forty million dollars. Therefore when the Colombian Congress adjourned in October, 1903, the matter of the Hay-Herran treaty had been entirely ignored. The Colombian politicians argued that with the abrogation of the French Canal Charter they could deal directly with the United States or any power that wanted to purchase the canal rights.

It was at this time that M. Bunau-Varilla, a French engineer who had been with de Lesseps through the period of canal construction in Panama, and a small group of Panamanians, educated and astute, seeing in Colombia's refusal to sign the treaty a continuance of the stagnant state of affairs that had marked Colombia's rule in the past, decided that the time had come to throw off the obnoxious yoke of an unsympathetic and oppressive government. It is scarcely surprising with this state of affairs that M. Bunau-Varilla and the Panaman group plotted and planned the conspiracy that resulted in revolt and an ultimately successful revolution.

Panama, in the course of fifty-seven years had been the scene of fifty-three varieties of revolutions. In several previous attempts to throw off Colombian rule their plans had been frustrated by the in-



JOHN FRANK STEVENS.
APPOINTED CHIEF ENGINEER, JUNE, 1905.

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terference of the United States. The authority of the United States to interfere in the internal disturbances of Colombia came about through the historic old charter of the Panama Railroad Company, under which the Panama



BY MOONLIGHT IN PICTURESQUE PANAMA.
PHOTOS COURTESY OF LEWIS.

Railroad is at present operating. Little did Aspinwall, Chauncey and Stephens dream that when they caused the State of New York to create them a body corporate under the name of Panama Railroad, for the purpose of constructing and maintaining a railroad across the Isthmus of Panama, that their charter contained a clause, upon the strict interpretation of which would hang the fate of nations. But this was demonstrated by the revolution in Panama which severed the last tie with Colombia and which was the direct result of

the application of the provision in the charter, which provision guaranteed an uninterrupted transit across the Isthmus, via the Panama Railroad, as well as protection of property, as can be seen by the pro-

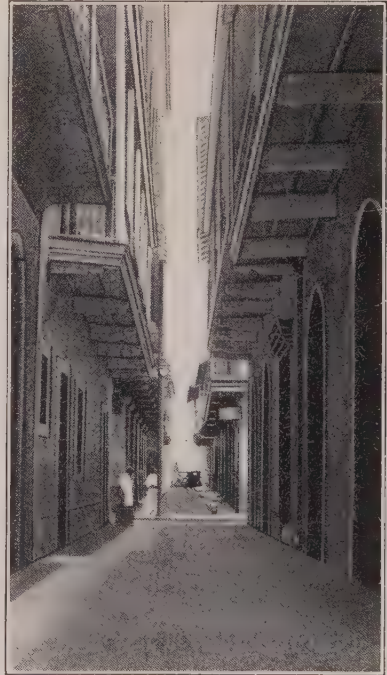
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vision which reads, "The United States guarantees positively and efficaciously to New Granada by the present stipulation the perfect neutrality of the before mentioned Isthmus with the view that the free transit from one to the other Sea may not be interrupted or embarrassed in any future time while the treaty exists; and in consequence, the United States also guarantees in the same manner the rights of sovereignty and property which New Granada has and possesses over said territory."

After Colombia's failure to ratify the treaty whereby the French could sell their rights to the United States, a very tense situation developed in Panama. The French Canal Company realized that if they did not sell their incomplete canal and property rights to the United States that their last hope was gone to recover any of the vast sums that had been poured into the enterprise. Panama realized that if the United States chose the Nicaraguan rather than the Panama route, a period of poverty and inactivity would ensue for her.

M. Bunau-Varilla came to Panama when a young man. His work in Panama toward constructing the canal gave him an insight into the true state of affairs. He knew intimately the prominent men in Panama, and he had personally witnessed a revolution in which the United States had interfered in compliance with the terms of the railroad charter which guaranteed "to maintain uninterrupted transit across the road." M. Bunau-Varilla arrived in New York at the psychological moment. With so many revolutions to her credit, the citizens of Panama naturally were not inexperienced in the gentle art of revolutions, à la Latin America, and utilizing their past experience which they combined with the zealous and ambitious M. Bunau-Varilla's plans, the conspiracy was soon well under way.

M. Bunau-Varilla, in his dramatic book, leaves out none of the details and reveals all of the "secrets" that were supposed to shroud the whole affair. He records that he had an interview with the President and Secretary Hay, but was told that the Administration could not be drawn into the conspiracy. However, the President told him that he would or-



NARROW STREET IN PANAMA.

THE PANAMA CANAL



MONUMENT ERECTED TO THE FRENCH WHO
FAILED.

PHOTO COURTESY OF LEWIS.

der warships to Panaman waters which would prevent the obstruction of the uninterrupted transit across the Isthmus, all in accordance with the pledged duty of the United States. Thus it was that on November 3rd in Colon waters were anchored the *Maine*, *Mayflower*, *Dixie* and *Nashville*. In Panama, the *Boston*, *Marblehead* and *Concord*.

Colombia had been warned from Washington that the revolution was impending and leisurely sent her troops, consisting of about four hundred men to Colon. They landed without interference and the Colombian Generals proceeded to go to Panama ahead of their troops. The troops were refused passage across the Isthmus by the railroad officials. The Colombian Generals were arrested and disarmed by the

Panamans. The bloodless revolution ended November 3, 1903. A day momentous for Panama as well as the United States had come and passed. It chronicled the birth of a new republic. Panama was calm in her triumph and stood ready to defend the United States Government against the censure heaped upon it by other nations and individuals in the United States who criticized without the benefit of a real knowledge of the facts. Roosevelt, summing up the points in his message to Congress, told the true story in no uncertain terms of the circumstances surrounding the episode that ended Colombia's rule in Panama:

"Every effort has been made by the Government of the United States to persuade Colombia to follow a course which was essentially not only to our interest and to the interests of the world, but to the interest of Colombia herself. These efforts have failed, and Colombia, by her persistence in repulsing the advances that have been made, has forced us, for the sake of our own honor, and of the interest and well-being, not merely of our own people, but of the people of the Isthmus of Panama and the people of the civilized countries of the world, to take decisive steps to bring to an end a condition of affairs which had become intolerable. The new republic of Panama immediately offered to negotiate a treaty with us. By it our interests are better safeguarded than in the treaty with Colombia, which was ratified by the Senate at

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its last session. It is better in its terms than the treaties offered to us by the republics of Nicaragua and Costa Rica. At last the right to begin this great undertaking is made available. Panama has done her part. All that remains is for the American Congress to do its part, and forthwith this republic will enter upon the execution of a project colossal in its size and of well-nigh incalculable possibilities for the good of this country and the nations of mankind."

The House of Representatives conducted a thorough investigation of the whole affair and the extensive reports of the proceedings reveal that nothing more than the facts herein stated were proved.

There has been much sentiment wasted over "poor Colombia" losing her most valuable province, and much undeserved censure was heaped upon Roosevelt, all of which amused him more or less. His position was justifiable both from the standpoint of Colombia's deceit and the commercial need of the nations, and Roosevelt, with the courage of the truly great, declared always that the ends justified the means. There is still much confusion and incoherence of opinion on the subject. That the administration was thoroughly cognizant of the situation and knew that a revolution was going to take place in Panama on a certain date no one can deny, but to say that the administration provoked or instigated the revolution is to take from Bunau-Varilla, now living in Paris, and from the political group in Panama, the credit for



ATLANTIC TERMINAL OFFICE BUILDING, CRISTOBAL.

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creating the republic, to which they are justly entitled and of which they are justly proud.

On November 6th the United States Government formally recognized the new republic, and diplomatic relations were immediately opened up with the Panaman Government. On February 26, 1904, the United States concluded a treaty with Panama. The French Canal Company sold to the United States all rights and physical properties for the sum of 40 million dollars, and May 4, 1904, marked the date when the United States took possession of the Canal Zone, paying to Panama ten million dollars therefor.

The United States was far more fortunate in the circumstances of its task of building a canal than were the French. The latter worked under the cloud of bacterium pestilence that knew no check, but flourished with increasing vigor as the work progressed. Even the hospitals had become breeding places of the (at that time) unsuspected, deadly foes—mosquitoes.

The Americans on the other hand began the canal work almost simultaneously with the two great scientific discoveries of the definite causes of malaria and yellow fever. These discoveries that have meant so much to civilization were proved by Dr. Ronald Ross and his co-workers, who demonstrated that malaria was caused by the *Anopheles* mosquito, and Dr. Walter Reed and his associates definitely proved that yellow fever was caused by the *Stegomyia* mosquito.

These scientific facts were proven in Cuba, and the extinction of these two diseases at Havana proved to be the epochal discoveries of the age, coming at an opportune time, which made it possible for the United States to put into operation sanitary measures that were to be the most important factors in building the canal.

Accordingly, when the first Isthmian Canal Commission visited Panama for a preliminary survey of the huge task of canal construction, Col. Gorgas accompanied them and laid the foundation of a sanitary system that has no equal elsewhere in the world.

The first Chief Engineer of the Canal Administration was John F. Wallace, who came to Panama in 1904. His task was not an easy one and the pioneer work of organization and systematizing the Canal Zone was difficult and depressing in the extreme. Yellow fever was still raging at that time, and Panama presented a picture that was anything but alluring, with its filth, unpaved streets and mud, ankle-deep in the rainy season. Water carriers peddled the water from contaminated springs, which was stored frequently in cisterns and containers which became breeding places for mosquitoes. It was thus that Col. Gorgas and John F. Wallace found Panama.

The United States was unwilling to assume the responsibility of

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UNITED FRUIT COMPANY OFFICE BUILDING, CRISTOBAL, CANAL ZONE.

sanitating the Zone without also having perpetual sanitary control over the terminal cities of Panama and Colon. Panama agreed to this arrangement, and Col. Gorgas and his assistants built for Panama and Colon their present up-to-date water and sewer system, beginning at the same time a campaign for cleanliness which was enforced by authority. Thus it was that two of the worst pest-ridden and loathsome cities in the universe were left by Col. Gorgas clean, healthful and sanitary. The same high standard for sanitation set by Col. Gorgas still prevails and the cleanliness of Panama and Colon are proverbial.

Wallace worked away methodically and systematically, and achieved splendid results in the course of a year, at the end of which he resigned. President Roosevelt next appointed John F. Stevens—June, 1905—to the important position of Chief Engineer, and it was really the genius of this remarkable man that laid the firm foundations of the splendid work that followed later.

When Stevens arrived in Panama in 1905 there was discouragement and despair. The work was at a standstill; there was much sickness and a deplorable condition of confusion everywhere. There were many unavoidable difficulties, but the encumbrance of red tape at every turn was the most discouraging of all.

It may be fairly said that to John F. Stevens belongs the honor of fusing and molding a broken organization that had grown languid and apathetic, because of discouraging external conditions, into one

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of activity and achievement which has no parallel in the annals of engineering. His grasp and vision of the titanic work is evidenced today in the completion of plans that were originated and put into operation by him, and permeating the whole personnel of the workers was the enthusiasm and pride of work well done and a loyalty to their Chief that has characterized the canal enterprise from Stevens' time of construction to the present time of operation.

The turning period of this pioneer organizing work, aside from actual plans for the construction of the canal work, the establishment of a commissary system that supplied the employees with all the necessities of life, the establishment of quarters and the development of schools, had almost passed, when suddenly John F. Stevens resigned. It was a serious blow to the thirty thousand faithful workers who regretted the loss of their leader, but they stood ready to give his successor their loyal support.

There was little interruption in the work and few changes in the procedure of construction, but with the resignation of Stevens, President Roosevelt realized the hampering influences of conflicting opinions, and the general harassments of a political nature that would beset any Chief Engineer whom he might appoint unless given a free hand. With this in mind he made his decision to appoint an army man, some one, as he expressed it "who can't quit." On the same day Stevens resigned, Lt. Col. George W. Goethals was appointed to the position of Chief Engineer of the Panama Canal.

It was at this juncture also that Roosevelt realized that to complete the canal it would be necessary for the United States Government to assume complete control of every activity on the Zone, and accordingly plans were made to this end. With the appointment of Col. Goethals there was brought about the fusion of the Canal Zone's economic affairs into one complete system of governmental control. To satisfactorily carry out such a measure, so far-reaching in effect, required complete authority and all power of enforcement. This was given Col. Goethals. The Canal Zone is under this system of government today, which is unique in control but successful in operation, and is frequently referred to as being socialistic in many respects and resembling Bellamy's "*Looking Backward*," which outlines a definite scheme of industrial organization on a national basis. When Bellamy journeyed across the Isthmus—in the eighties—Panama certainly did not present a possibility, even to the most visionary, of eventually becoming the nearest approach to the present time of the ideal of the Utopia that his remarkable book pictures.

The outstanding and constructive work of Congressman W. C. Admanson at this time is deserving of special mention, for to him more

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than to any one else belongs the honor of having supported and promoted legislation which improved conditions on the Isthmus in the way of Sanitation, Markets and the many conveniences that Canal Zone employees now enjoy. The Adamson Act which was introduced by Congressman Adamson and passed by Congress for the operation of the canal and the government of the Zone is proof of this fact.

With the assumption of full power, unhampered by politics and bickering rivalries, Col. Goethals put to the full test the fearless courage that was the measure of the man. He rose to the occasion and met the demands with increased strength when the eyes of the world were focused upon him and upon his co-workers. The lines of the poet Browning express the achievements:

"We ask
To put forth our strength, our human strength
All starting fairly, all equipped alike.
But when full roused, each giant limb awake,
Each sinew strung, the great heart pulsing fast,
He shall start up and stand on his own earth.
Then shall his long triumphal march begin
Thence shall his being date."

So the work on the canal began under the great leader who marshalled together an army that had for its goal achievement and construction, and under the

same methods employed when men are trained for the devastating destruction of war, began that period of feverish activity that permeated every department of affairs in the Zone, known as the memorable period of construction of the canal. With military precision the great march toward a completed canal began, and the rhythm of work vibrated like the beat of a giant heart. All were in step who marched. All who were not in step gained the unsought distinction of elimination by the deportation route. This vast army, co-ordinated un-



W. C. ADAMSON.

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der one head, came from the far corners of the earth and represented forty nationalities from eighty-five geographical subdivisions, and thus they worked joyously and tensely as one nation for one ideal, and thus through the concentrated efforts of the many was produced the completed canal.

The building of the canal was the source of the greatest pride to every American who faithfully engaged in its construction. It should be the source of the greatest pride to every true American who views this masterpiece of industrial art with "the horrible magnificence of machinery, the one beauty which the modern world has been able to create," and also to every true American should come the feeling of glowing pride that of that vast sum of three hundred million dollars not once has the charge of graft, dishonesty or mismanagement of funds been made.

Such is the story of the construction of the Panama Canal.

With the completion of the canal, the hectic days of construction ended, there came the period of reorganization for the calm of actual operation. There are few who visit the canal today who realize the scope and extent of this great enterprise, nor do they realize that attendant upon keeping this waterway open for the world's traffic various ramifications no less interesting than the canal itself have sprung into existence.

The organization for the operation and maintenance of the canal and the government of the Canal Zone, as at present constituted, was established by the President in conformity with the provisions of the Panama Canal Act, August 24, 1912, which established the organization for the operation and maintenance of the canal. In the Governor of the canal is vested the supreme authority, as head of the organization known as the Panama Canal. The Governor is also President of the Panama Railroad Company. The Panama Canal is directly under the President, but the Secretary of War represents the President in the administration of affairs in the Canal Zone.

The organization on the Isthmus includes a number of departments and divisions in charge of various activities which are listed by the Government as follows:

Division of Operation and Maintenance—The Supply Department—Accounting Department—Health Department—and The Panama Railroad.

The canal and railroad together with their various departments employ at present 2,870 Americans, who are termed "Gold" employees and 9,880 "Silver" or foreign employees.

Deserving of mention among the canal enterprises is the large commissary system, under the direction of the Chief Quartermaster,

THE PANAMA CANAL

which supplies Zone residents with all foodstuffs and practical merchandise, and also supplies the needs of the numerous ships that are provisioned here. In a large and modern cold storage plant located in Colon is stored a huge reserve supply of foodstuffs. Two ice plants produce an abundance of ice for local needs as well as the ship trade.

Two modern hotels, the *Tivoli* in Ancon and the *Washington* in Colon, are efficiently maintained throughout the year to accommodate the constantly increasing number of visitors to Panama and those traveling en route to and from the States and to Europe.



TIVOLI HOTEL FROM ANCON.

Two government hospitals are important adjuncts to the canal, and are equipped to care for the medical needs of canal employees, the large force of army and navy personnel, as well as patients from all Latin America.

The Health Department is no less important today than in the pioneer days of canal history, for it is necessary to constantly guard against the numerous tropical diseases that require eternal vigilance to eliminate. An important part of this work is the quarantine maintained at both of the terminal cities. This department is virtually a clearing house through which the diseases occurring on all the ships that pass through the canal are reviewed, and which without a clean bill of health are quarantined, thus insuring protection to other ports.

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The educational needs of the children of the Zone are splendidly cared for in a highly-developed Divisions Schools System, which includes kindergarten, grammar and high school. There are also club-houses and recreational centers that are open to the public as well as to the Zone residents.

The Canal Zone organization as we view it, under the capable guidance of Governor Meriwether L. Walker, is fulfilling in a thorough and economical manner the real purpose of the canal, and through its channel today is passing the commerce of the seagoing ships of the world. And so it stands, the completed Panama Canal in operation, a glorified achievement which represents the ideal of a great nation, the sharing of its service to all mankind and compelling the admiration of the casual tourist, and the patriotic citizen as well as the world's most forceful and dynamic personalities who review this heroic picture, of an achievement that measures up in terms of efficiency and altruism, without parallel in the world's history.

Ambassador Bryce has fittingly summed up the opinion of the nations when he wrote of the Panama Canal: "There is something in the magnitude and the methods of this enterprise which a poet might take as his theme. Never before on our planet have so much labor, so much scientific knowledge, and so much executive skill been concentrated on a work designed to bring the nations nearer to one another and serve the interests of all mankind.

In no previous age could an enterprise so vast as this have been carried through; that is to say, it would have required a time so long and an expenditure so prodigious that no rational government would have attempted it."

F A C T S C O N C E R N I N G T H E C A N A L.

The Pacific entrance to the Panama Canal is 27 miles east of the Atlantic entrance, the general direction of the channel being from northwest to southeast. Approximately $14\frac{2}{3}$ miles of this are at sea-level, $6\frac{2}{3}$ miles at the Atlantic end and the 8 miles opening into the Pacific. Through the Gatun Lake section and Gaillard Cut— $31\frac{1}{4}$ miles—it is normally 85 feet above sea. From Pedro Miguel Locks through Miraflores Lake, about one mile, the channel level is normally 54 feet above the sea. There are dams and spillways at both Gatun and Miraflores Lakes to control their level during the rainy season.

The double locks in all the locks are similar in construction and dimensions, each has a usable length of 1000 feet and a width of 110 feet. The chambers have floors and walls of concrete with mitering gates at each end. On the inside the walls are perpendicular and are

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45 to 50 feet thick near the bottom, while the outer walls narrow from a point 24 feet above the floor to a thickness of 8 feet at the top—separating the middle walls the double locks are 60 feet thick and 81 feet high—with both faces vertical.

In the wall there is a tunnel that has three divisions, the lowest for drainage and the middle for electric wires to operate the gates and valve machinery, the highest as a passage way for the operators.

The immense steel gates that match the walls are 7 feet thick, 65 feet wide and from 47 to 82 feet high with a weight of from 390 to 730 tons each.

The double gates one sees at the entrance of the locks as well as the lower end of the upper lock in each flight, are so placed in case of ramming by a ship through accidentally breaking the fender chain. There are 24 chains in addition to the gates—these chains are so placed as a precaution to prevent the gates being rammed by a ship under its own steam—or in case of having escaped from the towing locomotive. The chains are lowered into a groove to allow the ships to pass.

Ships are not permitted to enter the locks under their own steam but are towed through by electric locomotives called by the operators "mules," usually four to each ship—two ahead and two astern. The latter hold the vessel in the middle of the lock and in the right place. Gates and valves are operated by electricity.

As an aid to Navigation the Atlantic entrance of the canal is marked by a light of fourth magnitude placed on the end of Toro Point Breakwater where there is also a compressed air fog whistle and a submarine bell.

The tangents in the canal are defined by range lights. Also there are side lights spaced about one mile apart on each side of the channel. The sides of the canal are also further illuminated by acetylene flashing gas lamps of 450 candle power and intermediate spar buoys. The locks are illuminated by means of 400 Watt Tungsten Lamps on concrete posts with concrete reflectors.

Transiting the canal from Atlantic to Pacific, a ship climbs three steps at Gatun by means of triple locks to the level of Gatun Lake. It is lowered one step at Pedro Miguel and two steps at Miraflores to the level of the Pacific. The largest ship afloat can be accommodated—safely and efficiently.

Through Gaillard Cut the channel has a minimum width of 300 feet; it is 500 to 1,000 feet wide through Gatun Lake, and 500 feet wide through the sea-level sections. At the Atlantic entrance it is 42 feet deep; through the lake 45 to 85 feet. At the Pacific entrance the

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canal is around 45 feet deep, though the high tides pouring into the Gulf of Panama cause this to fluctuate considerably.

It cost \$387,000,000.00 to build the Panama Canal, exclusive of fortifications. The French started work on a waterway January 20, 1882. They finally gave it up as a bad job and sold their rights to the United States, the formal transfer taking place on May 4, 1904, and the American Government started work immediately.

Mr. John F. Stevens, who carried the Great Northern Railway over the summit of the Rocky Mountains, superintended and laid the foundations for the constructing organization. He was later succeeded by Col. Goethals of the U. S. Army, who had charge of the entire work until completion. The triple flight of locks at Gatun were built under the direction of Col. W. L. Sibert, Division Engineer for the Atlantic Division. The Pedro Miguel and Miraflores Locks were constructed under the supervision of Mr. S. B. Williamson, a noted civilian engineer who was Division Engineer on the Pacific side.

The first ocean steamer passed through August 3, 1914, though the canal was not opened to regular commercial traffic until August 15th. The official opening, by the President of the United States, did not occur until July 12, 1920.

TIDES—

PACIFIC SIDE—MAX. RANGE of tide equals 22 ft.

Between +11.0 and —11.0 ft.

Least tidal range—6.5 ft.

Between +3.25 and —3.25 ft.

ATLANTIC SIDE—MAX. RANGE of tide—22 inches.

Between 12 in. and 10 inches

Difference between mean sea-level on Pacific and Atlantic sides is about 8", the Pacific being the higher.

A sea-level canal here, 1,000 ft. wide, during days of "Spring Tides", would give a current of water across the Isthmus four (4) times a day (twice toward Balboa and twice toward Colon) of three (3) knots an hour.

Primary causes of tides (attraction of sun and moon) is modified in Panama by inlets; shapes of surrounding land forms, ocean currents, prevailing sea winds, positions on opposite sides of continents (west side of continents have the bigger tidal ranges between high and low tidal stages).

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